



Faculty of Education and Natural Sciences

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**Sustainability Management and Business
Cluster 7Sterke**

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ABBREVIATIONS

BM	Business Model
CERES	Coalition for Environmentally Responsible Economies
CEO	Chief Executive Officer
CSR	Corporate Social Responsibility
EU	European Union
GRI	Global Reporting Index
HR	Human Resources
ISO	International Standardization Organization
MDGs	Millennium Development Goals
OECD	Organisation for Economic Co-operation and Development
PESTLE	Political, Economic, Sociological, Technological, Legal and Environmental
SBM	Sustainable Business Model
SDGs	Sustainable Development Goals
SMEs	Small and Medium Scale Enterprises
SMS	Sustainability Management System
SWOT	Strength Weakness Opportunity and Threat
TBL	Triple Bottom Line
UN	United Nation
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme
WSSD	World Summit on Sustainable Development

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ABSTRACT

Sustainability is the topic of discussion with the start of industrialization and advancement in human civilization. Sustainability is now topic of concern for various groups like government, NGOs, international organizations, financial institutions, business companies, academics, and consumers. The business companies are the center of attraction for economic activities which has a direct impact over environment and society. So, various stakeholders demand the sustainability performances report of the companies. There are various frameworks for sustainability measuring and reporting like UN SDGs, UN Global Compact, GRI, DSJI Index, CDP Index, etc. This thesis aims to find out how the companies inside the 7sterke business cluster are working for sustainability management by knowing their competency level and challenges faced by them. As well as this thesis also tried to find out how CEOs and managers understand and take sustainability in their business. The study relies on literature review and interview. Responses from companies are analyzed to understand the status quo. From the study, it is found that most of the companies are working for sustainability in certain forms, but they do not fully meet the TBL theory. Most of them are using ISO standards like ISO 14000, ISO 9000 and ISO 26000. There is not any company who is using standard sustainability reporting framework for sustainability measurement and reporting so transparency to all stakeholders is lacked. For many company's time, budget and financial stability of companies are challenged to implement sustainability programs. There are various similar examples and cases from which companies like in 7sterke can use to understand and work on sustainability. In this thesis also, examples from Orkla business group, Moelven ASA and TOMS shoe are discussed. This thesis has also given some recommendations which 7sterke can use for future research and work.

Keywords: Sustainability management in business, CSR, 7sterke business cluster, sustainability frameworks, sustainability measurement, and reporting

1 INTRODUCTION

Since long time ago, various concepts of sustainability came in discussion with the start of industrialization age and advancement in human civilization (Du Pisani, 2006; Feil & Schreiber, 2017). Now the world needs more sustainable practices for better living and long life of mother earth. More than before now there are the clearer concept of sustainability and mechanisms developed to achieve sustainability targets (Joung, Carrell, Sarkar, & Feng, 2013; Madanchi, 2013; Waas et al., 2014). To achieve the sustainability aims all the player like government, the private sector, NGOs, INGOs, research institutes and peoples all should come together and contribute from there place (Fischer & Newig, 2016; Kates, 2018).

The industry is the center of attraction for economic development which has a direct impact over environment, society and economic status. There is growing demand of sustainability approaches and increase in pressure to go for a sustainable production for industries which showed in the future every business will need to go for sustainability system (Ortiz-de-Mandojana & Bansal, 2016; Schaltegger, Hansen, & Lüdeke-Freund, 2016). Bocken et al. (2014) also say business, as usual, is not going to work in business world. Due to the growing effect of industrialization on the environment, society and economic sectors from long time various global bodies are keeping pressure for companies to act sustainably and responsibly (G. Brundtland, 1987; OECD, 2011; United Nation Development Program, 2018).

Sustainability and sustainable development term used in this thesis are taken from the sustainability definition given by (G. H. Brundtland, 1987) "Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Triple Bottom line theory is taken as supporting theory for sustainability concept in this thesis. John Elkington formulated a new accounting framework to measure performance for American corporates called triple bottom line (TBL) ,to support the concept and measure the attainment of sustainability goals during mid-1990s (Timothy F. Slaper & Tanya J. Hall, 2011). TBL includes profit, people and planet. There is a direct relationship between nature and human being. We are utilizing natural resources for our living. If we look towards today's business world, industrialization is based on utilization of natural resources to produce various products. Looking towards the current rate of consumptions of natural resources, the demand for natural resources surpasses 41% extra

capacity of the Earth. If the same growth will continue at this rate, with the assumption of reaching the world population 10 billion by 2030 then 2 piles of the earth will be required to fulfill the demand (Fernando Alcoforado, 2018).

Sustainability in the business framework means to the work of a company that they are working on to minimize the negative impact on the environment, including people and the planet (Hogevold and Svensson, 2012). There are various national and international laws and regulations for implementations of sustainability approaches, some of them may be obligatory and some may be voluntary (Pavlovskaja, 2014). National laws and frameworks are examples of obligatory regulations and frameworks developed by NGOs and research institutes are the example of voluntary approaches. From the study of Knut Haanaes, 62% of executives think sustainability is important for competitiveness and 22% think it will be in the future (Knut Haanaes, 2016). Bigger companies are dedicated to sustainability approaches setting sustainability goals. In many examples, bigger companies are getting economic benefits by doing responsible business on the win-win format for sustainability.

Due to the rising concern many companies are working for sustainability shift through linear business to circularity, change in traditional business model concept by adding sustainability value propositions, implementing different kinds of sustainability frameworks for implementation, measurement, reporting and communications (Geissdoerfer, Vladimirova, & Evans, 2018; MacArthur, 2013; Schaltegger, Bennett, & Burritt, 2006; Siew, 2015).

United nation has set 17 sustainability goals (SDGs) for 2030 on a global basis for both governmental bodies and private sectors. Many businesses are integrating it as a sustainability reporting framework. Examples of some popular frameworks are UN global compact, OECD Guidelines for Multinational Enterprises, GRI (G4). Norwegian parliament in 2013 has passed CSR acts that need to be followed by larger companies in the Norwegian Accounting under section 3-3c for large companies (Regjeringen Norge, 2016b). According to Innovasjon Norge sustainability will be the red line for all companies partnering with it and in future, they will demand the green profile of every company (Innovasjon Norge, 2018). In addition, Norwegian investment sectors are also following sustainably responsible investment guidelines and Finans Norge has produced its own roadmap for green competitiveness and sustainability in the Norwegian financial sector (Finans Norge, 2018). Due to the environmental status of planet earth, pressure from various global bodies and

national policies as well as demand from consumer and other stakeholders of businesses, implementation of sustainability approaches is important for sustainable future of business.

The reason behind choosing this thesis work is to help 7sterke business cluster for making the step towards sustainable future as they are planning to go for the more sustainable production system and they want to develop collaborations for increasing their level of competency in the field of business sustainability. The thesis aimed to help by making assessment of the current status of sustainability in the cluster as well as investigating to what extent the company leaders have knowledge in what is needed to adapt to a more sustainable business and whether their strategy plan reflects the change or not. There is an increasing demand to go for sustainability and in future, it is going to be more competitive for businesses to survive. This thesis will work to reflect the current situation and advise recommendations.

The study explores how sustainability is being practiced and how the member companies inside 7sterkes understand the concept of business sustainability. The study focused on establishing sustainability management competency and exploring the need for sustainability management education or skill for the member companies inside 7sterke business cluster to gain the required level of competency. The study is carried out by literature review and interview with different companies within 7sterke. The result from this study should give the clear overview of current situations and should be able to give relevant and effective recommendations which will be valuable for further research work and to design sustainability programs for industries in the clusters.

1.1 Purpose of study

1.1.1 Research objectives

The goal of the thesis is to perform an analysis of the sustainability competence of a selection of companies inside 7sterke Industrial Cluster in the Headmark. The main objective is to find current situations of sustainability practices and to analyze the need for sustainability management programs and to recommend for what future actions to be taken.

1.1.2 Research queries

1. What is the current scenario about sustainability management practices insides companies located inside 7sterke clusters?
2. What is the level of sustainability competency of companies of the 7sterke cluster?
3. How do the companies perceive the need for a sustainability management system and what are the challenges in implementing such a system?

2 THEORY

2.1 Sustainability

The term sustainability and sustainable was first published in the Oxford dictionary around the second half of the 20th century (Van Zon, 2002). There were various philosophical theories, articles, and debates which shows that the concept of sustainable development for secure plant and the future of human civilization has a depth of historical roots. Example of some the concepts are the article of Thomas Robert Malthus "An Essay on the Principle of Population", his concept was about increased population and future of food production (Malthus, 1872). If we look towards the development process of concept from the theory of Malthus the concern shifted to the non-renewable natural source of energy like coal and petroleum (Du Pisani, 2006). These concerns of nature conservation are raised by George Perkins Marsh's Man and nature, Alfred Russell Wallace in a chapter on the plunder of the Earth (Du Pisani, 2006).

The years between the 1960s and 1970s became the melting point where various ideas about sustainability, environmental conservation, economics, and society came to new directions which were directed towards sustainability. Some of the key activity that played the role for the development of the sustainable concept and created pressure to act globally is Silent Spring (Carson, 2002), and Limits to Growth report (Meadows, Meadows, Randers, & Behrens, 1972) which is also known as the report of the Club of Rome.

In 1972 Conference on the Human Environment in Stockholm was held by the united nation which was the turning point towards environmental politics from the debate of ecology and economy (Division for Sustainable Development Goals (DSDG), 2018). As a result of this conference, the United Nations Environment Programme (UNEP) and the United Nations Development Programme (UNDP) were created and in 1983 the World Commission on Environment and Development was formed by UN General assembly which was also known as Brundtland Commission which in 1987 gave its report known as "our common future" (Paul, 2008). It was the key turning point where sustainability was adopted in written form and sustainability was defined for the first time globally. There were the various debates about pros and cons and vagueness of report, but we must thank for the born of the new concept (Wettestad, 1988).

The next step was the UN Conference on the Environment and Development (UNCED), which was held in Rio de Janeiro, Brazil, during the summer of 1992, the main outcome of this conference was Agenda 21 which has the main theme of sustainable development and environment (United Nations, 1997; Wirth, 1994).

In Kyoto, Japan, on 11 December 1997 conference on climate change was held which developed an international agreement based on United Nations Framework Convention on Climate Change focused on specific targets for cutting their emissions of greenhouse gases emission responsible for global warming(United Nation Climate Change, 2018).

The World Summit on Sustainable Development (WSSD) in Johannesburg in 2002 was a milestone in the business of formed partnerships between the United Nations, governments, business, and NGOs to gather resources for addressing global environment, health and poverty challenge(United Nation, 2002).

At the Millennium Summit organized in New York in September 2000, world leaders agreed on the Millennium Development Goals, they used 1990 as a benchmark and most of which have the year 2015 as a timeframe. The Millennium Development Goals were to (United Nation, 2000):

- (1) eradicate extreme poverty and hunger;
- (2) achieve universal primary education;
- (3) promote gender equality and empower women;
- (4) reduce child mortality;
- (5) improve maternal health;
- (6) combat HIV/AIDS, malaria and other diseases;
- (7) ensure environmental sustainability; and
- (8) develop a global partnership for development.

2.2 UN sustainability goals 2030

The Sustainable Development Goals (SDGs) which is also known as the Global Goals which came from the United nation conference on sustainable development in Rio de Janeiro in 2012 (United Nations, 2018). It replaced the Millennium Development

Goals (MDGs) from year 2000. The objective of SDGs is to develop universal goals that will work on urgent environmental, economic, and political challenges that our world is facing (UNDP, 2018). United nation has targeted to reach this goal by 2030 through the joint action of all member countries, so it's called UN sustainability goals 2030(United Nation Development Program, 2018). The 17 goals set by United nation are as follows (United Nation Development Program, 2018):

Goals	Name of goals	Descriptions
1	No Poverty	Economic growth should provide sustainable jobs and equality to all. The main aim of this goal is to eliminate all forms of poverty from everywhere in the world.
2	Zero Hunger	We have the challenge to feed 815 million hungry people today and 2 billion people expected by 2050. So, there is a need for change. The aim of this goal is to end hunger, achieving food security and providing nutritious food to all and promoting sustainable agriculture production.
3	Good Health and Well-being	The aim of this goal is to safeguard healthy lives by encouraging the well-being of people of every age group. There are various health threats world are facing like infectious diseases, maternal and child mortality, drinking safe water, etc.
4	Quality Education	Quality education is needed for quality life and a sustainable future. Today more than 265 million children are out of school and 22% of them are of primary school age. The aim of this goal is to ensure inclusive and reasonable quality education to all and promote lifelong learning processes.

5	Gender Equality	There is the need to end gender-based discrimination prevalent in many places in the world. So, there is a need for equal access to education, work, representation in the political and economic decision-making process.
6	Clean Water and Sanitation	There is the need for clean and accessible fresh water to everyone living in this world. But due to the various reasons like poor infrastructure, economics and industrial pollutions many people are dying due to the diseases associated with waterborne diseases. More than 2 billion are now living with the risk of reduced access to safe drinking water and by 2050 one in four people will be affected shortage of fresh water. So, its main aim is to ensure availability and sustainable management of water resources and sanitation.
7	Affordable and Clean Energy	Energy is the major problem the world is facing in the various part of the world. Still, there is the problem of electricity. The main aim of this goal is to safeguard reasonable, reliable and sustainable form of energy.
8	Decent Work and Economic Growth	Around half of the world, the population is living with an income of US\$2 per day and there is about 5.7% global unemployment rate. This figure shows there is a need for reform in our social and economic policies to eradicate poverty and to achieve sustainable economic growth. The aim is to promote constant, inclusive and sustainable economic growth with a decent work environment and productive employment.
9	Industry, Innovation, and Infrastructure	The aim is to build sustainable infrastructure, with promoting inclusive and sustainable industrialization and adopt the innovation.
10	Reduced Inequality	The aim is to lessen income inequality inside and among countries. There is inequality in income among different countries so there is a need for the effort to reduce income inequality.
11	Sustainable Cities and	Many cities are facing the problem of rapid urbanization and they are prone to the associated risk of unmanaged urbanization.

	Communities	The aim of this goal is to make cities and human living comprehensive, safe and sustainable.
12	Responsible Consumption and Production	The aim of this goal is to implement an eco-friendly production system for reducing waste production ensuring sustainable consumption and production.
13	Climate Action	The aim of this goal is to take immediate action to fight with climate change and its effects as it is directly affecting to the environment and human living. It also aimed for production of more renewable energy.
14	Life Below Water	The aim of this to conserve oceans, seas or marine life through sustainable use. Use of plastics and more carbon production is creating a negative impact on marine life, so the peoples who are living with the economic source from marine life will be affected.
15	Life on Land	The aim of this goal is to protect, restore and promote sustainable use of terrestrial ecosystem, stop deforestation, fight with desertification, save biodiversity and converse land degradation. This is very important for saving our biodiversity from extinction as there is an alarming rate of biodiversity declination(IUCN, 2018).
16	Peace and Justice Strong Institutions	The aim of this goal is to encourage peace by providing access for justice to everyone by building strong and responsible intuitions at all level. Its aim is to reduce violence, sex abuse, child abuse, and forced labor.
17	Partnerships to achieve the Goal	The aim is to strengthen the global collaborations and bringing all the sectors associated with for achieving the target by 2030 for sustainable development.

Fig 2. Table showing UN 17 sustainable goals for 2030 and descriptions



Fig 3. UN 17 sustainable goals for 2030 (UN News, 2015).

As all 193-member countries of the world have agreed to adopt and go for UN 17 SDGs goals, so this will affect all business companies (United Nation Global Compact, 2018a). Small or bigger companies all can contribute to SDGs 2030 by formulating a new strategy and adopting sustainability goals. SDGs Compass has released guide with 5 steps which helps the company to understand about UN SDGs goal and stepwise approach to implement and integrate into the business strategy of the company (SDG Compass, 2018). According to the survey report of PwC 70% companies are already planning to engage with SDGs goal, 41% companies say they integrate SDGs within 5 years and 90% of people say business should adopt and engage with UN SDGs goal (PwC, 2018).

2.3 Organization for Economic Co-operation and Development (OECD) guidelines for multinational enterprises

The OECD is an inimitable forum where the governments of 30 countries work together to address the economic, social and environmental challenges of globalization (OECD, 2018). The OECD Guidelines for Multinational Enterprises (the Guidelines) are recommendations, not the binding standards given by OECD to multinational enterprises for responsible business conduct (Reinert, Reinert, & Debebe, 2016). The guidelines are legally not binding but work upon mutual understanding and collaborations. They provide voluntary principles and standards for responsible business conduct consistent with applicable laws and by the commitment of the government of member countries (OECD, 2011). The Guidelines cover business ethics on a range of issues, including (OECD, 2011):

1. employment and industrial relations
2. human rights
3. environment
4. information disclosure
5. combating bribery
6. consumer interests
7. science and technology
8. competition
9. taxation

2.4 United Nations Global Compact

The UN Global Compact's governance framework was adopted by the UN Secretary-General Kofi Annan on 12 August 2005. Updates and refinements have been made since 2005, including the establishment of the UN Global Compact Government Group to formalize the role of Governments (United Nation Global Compact, 2018b). It holds ten principles which are based on the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention Against

Corruption (United Nation Global Compact, 2018b). This initiative of the United Nations helped to encourage businesses worldwide to adopt sustainability and social responsibility policies along with implementation and reporting (Compact, 2014).

Ten principles according to the United Nations Global compacts (United Nation Global Compact, 2018b).

Human Rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and

Principle 2: make sure that they are not complicit in human rights abuses.

Labour

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4: the elimination of all forms of forced and compulsory labor;

Principle 5: the effective abolition of child labor; and

Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment

Principle 7: Businesses should support a precautionary approach to environmental challenges;

Principle 8: undertake initiatives to promote greater environmental responsibility; and

Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

2.5 Sustainability Measuring and Reporting Standards

The new sustainability standards specifically addresses questions related to the social and environmental performance of firms (Gilbert, 2008). Behnam & MacLean (2011, p.48) classify these standards into three categories: principle-based standards (e.g. the UN Global Compact), certification-based standards (e.g. the ISO 14001) and reporting standards (e.g. the Global Reporting Initiative)(Gilbert, 2008). Slager et al. (2012) have also added financial indices (such as The FTSE4Good or the Dow Jones Sustainability Index) to this list (Slager, Gond, & Moon, 2012).

Sustainability Reporting is a quantitative process that assists organizations for communicating the organization's triple bottom line performance, reflecting positive and negative impacts (GRI, 2018a).Sustainability reporting is the common practices of the 21st century for sustainable business which is important to improve relationships with customers, employees, stakeholders, brand value and corporate reputations (Ernst & Young Global Limited, 2018).

There are many organization or standards who has distinct kinds of frameworks, measuring system of performances and communications. Depending upon business size, core objectives and type of business one can choose appropriate standards for sustainability measurement and reporting. Some of the major sustainability reporting framework and system providers are GRI (GRI's Sustainability Reporting Standards), Carbon Disclosure Project (CDP) ,Organisation for Economic Co-operation and Development (OECD Guidelines for Multinational Enterprises), United Nations Global Compact (the Communication on Progress, International Organization for Standardization (ISO 26000, International Standard for social responsibility) (GRI, 2018a).

Following are the benefits of sustainability measuring and reporting

1. Shows financial and non-financial transparency

Transparency is a quality of corporate social responsibility communication that enhances the relationship between investors and the company(Fernandez-Feijoo, Romero, & Ruiz Blanco, 2013). Companies providing high-quality financial information tend to be more conservative in their accounting and less tending to carry out unethical practices such as earnings management along with they are more

socially responsible(Martínez-Ferrero, Garcia-Sanchez, & Cuadrado-Ballesteros, 2015). This improves the company reputations among the different stakeholders and gains economic benefits (Gao, Dong, Ni, & Fu, 2016).

2. Helps in risk management and find new solutions for problems

It helps in risk management with various factors like brand reputations, financial risk, environmental risk (Bebbington, Larrinaga, & Moneva, 2008). The Enterprise Sustainability Risk Management ESRM model helps managers to employ tools such as environmental management systems, cleaner production, environmental auditing, life-cycle assessment, and environmental accounting. These tools can be applied to reduce risks, reduce costs, identify opportunities, and enhance business reputation and stakeholder interest (Yilmaz & Flouris, 2010).

3. Increases competitive advantages

Sustainability is not just environmental responsibility. Investors and other stakeholders are increasingly demanding to “ESG” or “CSR ”(Cini & Ricci, 2018; Dahlberg & Wiklund, 2018) There are many ways an organization can gain a competitive advantage(Chantal Rassart, 2018):

- Can be the choice as employer for the most talented individuals
- Can have access to the best financing
- Can have the maximum quality supply chain partners
- Can be the preference for customers choice

4. Improve product life cycle and reduces costs by energy conservation and responsible use of natural resources

Through the development of more sustainable business practices and innovations, efficiency in operations will increase. With better use and conservation of resources, operations will be streamlined, and costs will decrease. A key benefit of becoming a green business is reducing a company's carbon output and improve energy efficiency. One example is FedEx, which deploys a fleet of 700 aircraft and 44,000 motorized vehicles that consume 4 million gallons of fuel a day (FedEx 2018; Nidumolu,

Prahalad, & Rangaswami, 2009). They aimed to reduce aircraft emissions by 30 percent by 2020 on an emissions per available-ton-mile basis, as well as use 30 percent of alternative fuels. They are operating FY12 as FedEx Express vehicle which showed 22% fuel efficacy, in addition, they have now 23 B777Fs i.e. Boeing planes 777F as they consume 18% less fuel. They are also integrating electric and hybrid transport vehicle as a zero-emission electric vehicle(FedEx 2018).

5. Reducing the risk

There is the rise of the global marketplace and business are having access to many suppliers, manufacturing sites, office headquarters, employees and customers all around the world (Brondoni, 2014; Deshpande, 2017). As they created the base of international business the level of risk is also increased which can be categorized as economic, environmental, social, geopolitical and technological (World Economic Forum, 2018). Implementation of business sustainability management system helps to reduce the impact of such risks creating a new opportunity for financial growth(Sadgrove, 2016; Yilmaz & Flouris, 2010).

6. Access to finance

Financial investments are increasingly demanding sustainability reports for investment and lending as they are concerned about where and how their money is invested so companies that can demonstrate a good sustainability performance may have easy access to investment funds or financing (Canada, 2011b; Kyriakou, 2018).

2.5.1 Global Reporting Initiative (GRI)

Lying on the base of US non-profit organizations the Coalition for Environmentally Responsible Economies (CERES) and the Tellus Institute with the involvement of United Nations Environment Programme (UNEP), Global Reporting Initiative (GRI) was founded in 1997 in Boston, USA(GRI, 2018b). GRI Sustainability Reporting Standards (GRI Standards) are designed to help businesses, governments, and other organizations to understand and communicate the impact of activities on sustainability issues. This standard feature a modular, interrelated structure, and represent the global best practice for reporting on a range of economic, environmental, and social impacts (Global Reporting Initiative, 2018).

While Preparing a report with the GRI Standards, it gives an overall look of the organization's material topics, their related impacts, and their management. GRI has various training program and workshops collaborating with partner organizations in various regions as well as it has e-learning platform to develop the skilful manpower who can understand and use the framework effectively (Global Reporting Initiative, 2018). GRI has different types of reporting tools like Certified software and digital platforms for reporting which needs fees for use and renewal.

2.5.2 Carbon Disclosure Project (CDP)

The CDP is a not-for-profit organization which works on disclosure system for investors, companies, cities, and regions to manage their environmental impacts. CDP was established in 2002, its headquarters office is in London with several regional offices around the world. The focus areas of CDP are described below

Climate

They are working on improving corporate awareness and management through measurement and disclosure of carbon emission and climate change risk posed by corporate. (CDP, 2018b)

Forest

10-15% of greenhouse gas is due to deforestation and prevention of deforestation is very important. To stop deforestation and to remove deforestation from the supply chain system of company CDP works with the disclosure of the company's performance on environmental issues.(CDP, 2018c)

Water

CDP's water security program works on disclosure of companies impact over water resources as well as data collected by CDP helps influential decision makers to reduce risk and capitalize on sectors which promotes sustainability.

Companies participating in this standard need to pay the administrative fee which is different for companies from different regions of the world(CDP, 2018a). To use this standard CDP provides questionnaires for reporting and supporting material as well as one can use consultant service also(CDP, 2018d).

2.5.3 Dow Jones Sustainability Index (DJSI)

Dow Jones Sustainability Index (DJSI) series was introduced in 1999. RobecoSAM has ESG database with 600 ESG indicators and the S&P Dow Jones Indices works as the strategic partner for the publication and calculation of the ESG indices (RobecoSAM, 2018). It is a global index representing the top 10% of the largest 2,500 companies in the S&P Global Broad Market Index. This is very is one of the important criteria for investment companies who consider sustainability as a key factor of risk assessments(Greenstoneplus, 2018).

2.5.4 International Organization for Standardization (ISO)

26000

ISO 26000 is a sustainability reporting guidance from the International Organization for Standardization. It is designed for all types of organizations, in both public and private sectors, in developed and developing countries, as well as in economies in transition. It contains voluntary guidance, so it is not requirements(International Organization for Standardization, 2010). Therefore, it is not taken as certification standard like ISO 9001:2008 and ISO 14001:2004 (International Organization for Standardization, 2010). It was released on 1 November 2010. It mainly focusses on social responsibility that organizations should adopt for sustainability.

The standard defines seven underlying principles of social responsibility(International Organization for Standardization, 2010; Jimena Calfa, 2013):

- **Accountability:** business should consider itself accountable for the impact of its activities on the economy, society, and the environment.
- **Transparency:** business should be explicit about its decisions that may have societal or environmental impacts.
- **Ethical behavior:** business, as well as its individuals, should behave ethically.
- **Respect for stakeholder interests:** Your business should know, respect and respond to its stakeholders' interests.
- **Respect for the rule of law:** Your business should comply with and respect all legal requirements, review compliance regularly and keep informed about legal obligations.

- Respect for international norms of behavior: Particularly important if you do business in countries where the implementation of the law conflicts with international norms of behavior.
- Respect for human rights: business should recognize human rights are important and universal.

2.6 Business and Industrial Sustainability Management

The root for the development of business sustainability concepts is CSR, now the concept is changed, and the CSR is a part of the business sustainability program (Lamberton, 2005; Landrum & Ohsowski, 2018). The simple definition of business sustainability is “Business Sustainability is the strategy adopted on the base of three pillars social, environmental, and economic for the long-term future of business (Lexicon, 2018).” The triple bottom line is known as economic, ecological and social also known as people, planet, and profit (Hacking & Guthrie, 2008).

Definitions of three elements of the triple bottom line (Thwink Org, 2014)

- Environmental Sustainability is “the ability to keep rates of renewable resource harvest, pollution creation, and non-renewable resource depletion that can be continued indefinitely.”
- Social Sustainability is "the ability of a social system, such as a country, to function at a defined level of social well-being indefinitely."
- Economic Sustainability is “the ability to support a defined level of economic production indefinitely.”

At the 1992 UNCED conference held in Rio de Janeiro for the first time, sustainable production was introduced which aimed to help companies and government’s transition towards sustainable development (Marc A. Rosen & Hossam A. Kishawy, 2012). The U.S. Department of Commerce defines sustainable manufacturing as “the creation of manufactured products that use processes that minimize negative environmental impacts, conserve energy and natural resources, are safe for employees, communities, and consumers and are economically sound” (Moldavska & Welo, 2017). Lowell Centre for Sustainable Production defines sustainable production as “the creation of goods and services using processes and systems that are Non-polluting, conserving of energy and

natural resources, economically viable, safe and healthful for workers, communities, and consumers, socially and creatively rewarding for all working people” (Marc A. Rosen & Hossam A. Kishawy, 2012).

As a major stakeholder in several areas of human living, the industry has a great role to play in sustainability. The main impact of human activity is directed towards the environment. For example from the study of EU 27 data it represents 26 % of the final energy consumption in the EU, releases 28.5 % of the greenhouse gases produced in the EU 27 and uses energy which is still produced from fossil energy sources by up to 56 % (Bonvoisin, Stark, & Seliger, 2017). Beyond its direct environmental impacts, the discrete product manufacturing sector also influences the resource consumption of its products over their entire lifecycle and therein plays a critical and complex role in sustainability (Duflou et al., 2012).

With respect to the social aspects, the industrial sector employs 17 % of the European workforce (European Foundation for the Improvement of Living Working Conditions, 2014) and represents more than 23 % of worldwide total employment (ILO., 2014).

The concept of sustainable production systems as a subset of sustainable development was introduced and defined as the "systems of production that integrate concerns for the long-term viability of the environment, worker health and safety, the community, and the economic life of a particular firm. Sustainable production is a system that unifies the typically fragmented components of environmental and occupational health and safety and uses their interdependence to the advantage of each of these areas of concern" (Quinn, Kriebel, Geiser, & Moure-Eraso, 1998).

Today's sustainable manufacturing uses all lean, green, total quality management and corporate social responsibility (Cherrafi, Elfezazi, Chiarini, Mokhlis, & Benhida, 2016; Piercy & Rich, 2015). Incorporation of these tools ensures increased efficiency by adding innovation, reducing the impact of natural resources exploitation and increasing awareness of manufacturing effects on society (Hallam & Contreras, 2016; Pampanelli, Found, & Bernardes, 2014). Green or sustainable, manufacturing is defined by (Allwood, 2005) as a method to “develop technologies to transform materials without emission of greenhouse gases, use of non-renewable or toxic materials or generation of waste”. Lean manufacturing arises as an innovative manufacturing strategy to provide the improvement in the production system, quality maximization, and waste elimination (Henao, Sarache, & Gómez, 2019).

There is a need for sustainability indicators for business to understand and act sustainably how it impacts sustainability. For the achievements of sustainability, there is a need for metrics to measure signs of progress and identifying appropriate sustainability indicators is an important challenge (Marc A Rosen & Hossam A Kishawy, 2012).

Huang and Badurdeen proposed the Sustainability Performance Measurement House. It is the integration of product, process, and systems. The structure of this framework is designed by taking sustainable manufacturing as a foundation. TBL, total life-cycle and 6R as the pillars which support the house. Performance measurement framework in the middle which provides a consistent and acceptable approach to systematically collect, analyze, utilize and report the sustainability performance. In addition, there are stakeholders considered for sustainability metrics development. Then systems metrics form the roof of the house, which can be formulated at four levels ranging from line level, plant level, enterprise level, to supply chain level. (Huang & Badurdeen, 2017). This model helps to understand sustainability at various level for manufacturing company.

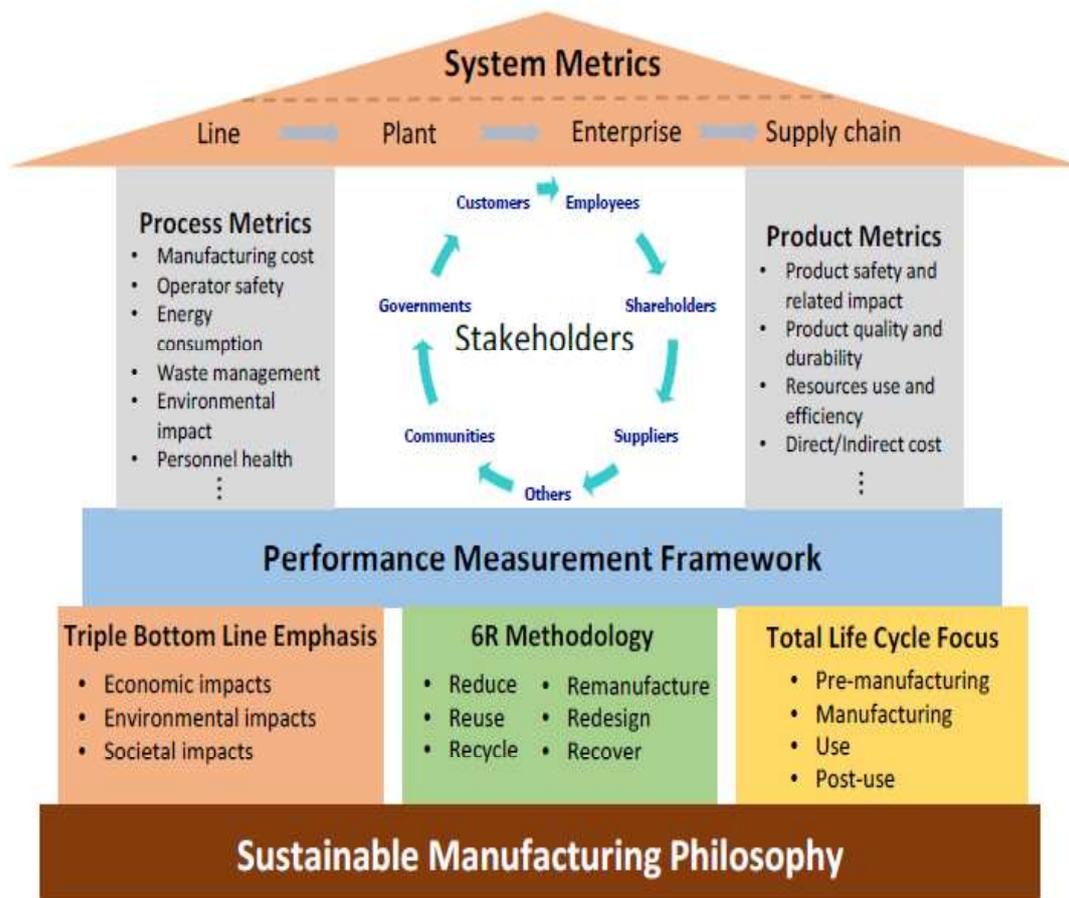


Fig 4. Sustainability Performance Measurement House: product, process, and

systems level integration.(Huang & Badurdeen, 2017)

The nature of companies are different from each other so their values and working area are also different, so here is a simple example of steps that every company can implement to start sustainability program (Canada, 2011b; Cecilia Dosal, 2013; Harvey).

1. Writing a mission and vision statement.

This should correlate with the business and idea that the company wants to contribute.

2. Identifying the areas that the company can have a positive impact on people, planet, and profit

In this step, the company can conduct a sustainability assessment to understand how they are performing and making impacts and where they need to work. It will overlook the organizational process of operations. To understand it various assessments and audits can be done like energy audits, waste audits, carbon footprint measurement, CSR audit.

3. Listing specific goals and targets based on the review of the company.

Learning from the audit and assessment company can find the place to work so based on it they can set goals and targets. These are the planned documents that can be revised over time.

4. Planning for implementation of these goals.

Here prioritization of goals that match with mission/vision, can have more impact and can be done with the company's available resource and saves more money are done. Here it is planned how to achieve them.

5. Setting the timelines for each goal.

Here timeline for achievement is set based on the nature of goals, so achievements can be measured over time.

6. Deciding to report and measuring frameworks and metrics which to use

To measure and report what the company has achieved there is the need for some frameworks and metrics which will measure the achievements and impacts. So, it shows in which direction progress is going on.

7. Creating a reporting plan.

Reporting is necessary to communicate with stakeholder to tell them what the company is doing utilizing its time and resources for its commitment to sustainability.

There are various other cases from which we can learn how to start sustainability programs and prepare organizations for sustainability one example is the government of Canada has developed the roadmap and published online to help companies to understand and implement CSR for sustainability(Canada, 2011a). From the site of Carolina Miranda the www.cultivatingcapital.com there is published the business guide to sustainable business practices which helps to understand how small companies can also implement sustainability elements practically and systematically(Miranda, 2018).

2.7 Sustainable Business Model Design

The concepts of business model emerged at the end of the 20th century, which was motivated by the need to describe and analyze new forms of business (Alt & Zimmermann, 2014; Wirtz, Pistoia, Ullrich, & Göttel, 2016)

A business model is a conceptual tool or representation designed for analysis, comparison and performance assessment, management, communication, and innovation for business firms, so they can understand their business logic. According to definition given by (A. Osterwalder, Y. Pigneur, & C. L. Tucci, 2005) “It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams”. The business model can be described as a series of elements: the value proposition (product/service offering, customer segments, customer relationships), activities, resources, partners, distribution channels (i.e. value creation and delivery) and cost structure, and revenue model (i.e. value capture) (Bocken, Short, Rana, & Evans, 2014). The Business Model Canvas is a template that describes the idea of how an organization creates, delivers and captures value which is also known as Osterwalder Business Model Canvas (A. Osterwalder, Y. Pigneur, & C. Tucci, 2005).

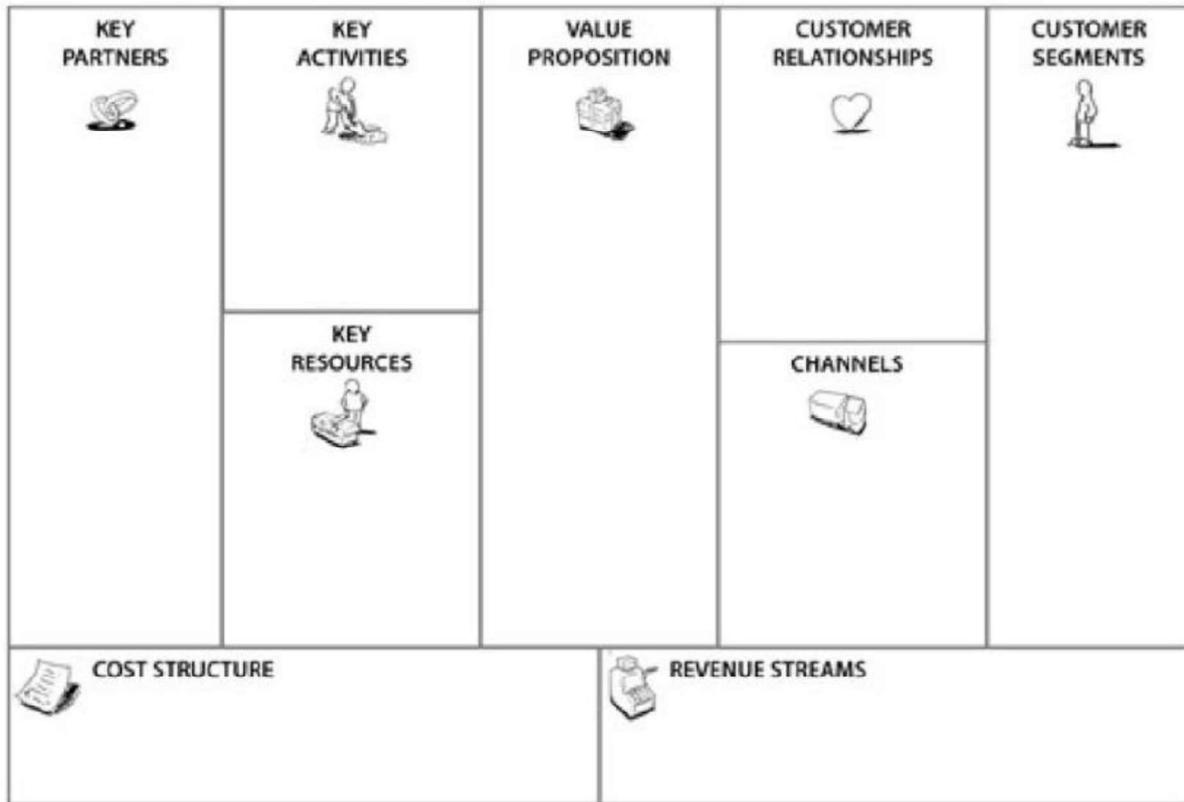


Fig 5. Elements of the Business Model Canvas (Osterwalder & Pigneur, 2010)

Due to the change in global business policy and pressure for sustainability programs showed a clear need for change in the traditional business models. So, the need for a sustainable business model came for discussion and development(Osterwalder & Pigneur, 2010; A Osterwalder et al., 2005)

The early concept of the sustainable business model was based on the structural and cultural roots of models that contribute to corporate sustainability (Stubbs & Cocklin, 2008). Business model innovations for sustainability are defined as: Innovations that create significant positive and/or significantly reduced negative impacts for the environment and/or society, through changes in the way the organization and its value-network create, deliver value and capture value (i.e. create economic value) or change their value propositions (Bocken et al., 2014).

According to (Schaltegger et al., 2016) “A business model for sustainability helps describing, analyzing, managing, and communicating (i) a company’s sustainable value proposition to its customers, and all other stakeholders, (ii) how it creates and delivers this value, (iii) and how it captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries.”

Concept of sustainable BM Jørgensen and Pedersen (2015) employs a working definition for the sustainable business model as an organizational design where the company's social and environmental effects are an integral part of the company's way of creating, delivering, and capturing value. Use of sustainable BM has a positive impact and lowered risk factors. SBMs are not necessarily achieved through technology, products or service innovation alone, but also through the innovation of the business model itself (Girotra & Netessine, 2013; Yang, Evans, Vladimirova, & Rana, 2017).

The Triple Layered Business Model Canvas is a tool for designed for creating a sustainable business model based on triple bottom line theory of sustainability. TLBMC helps to design, visualize and validate sustainable business models. It also helps to enhance the business model by visualizing vertical and horizontal coherence(Joyce & Paquin, 2016).

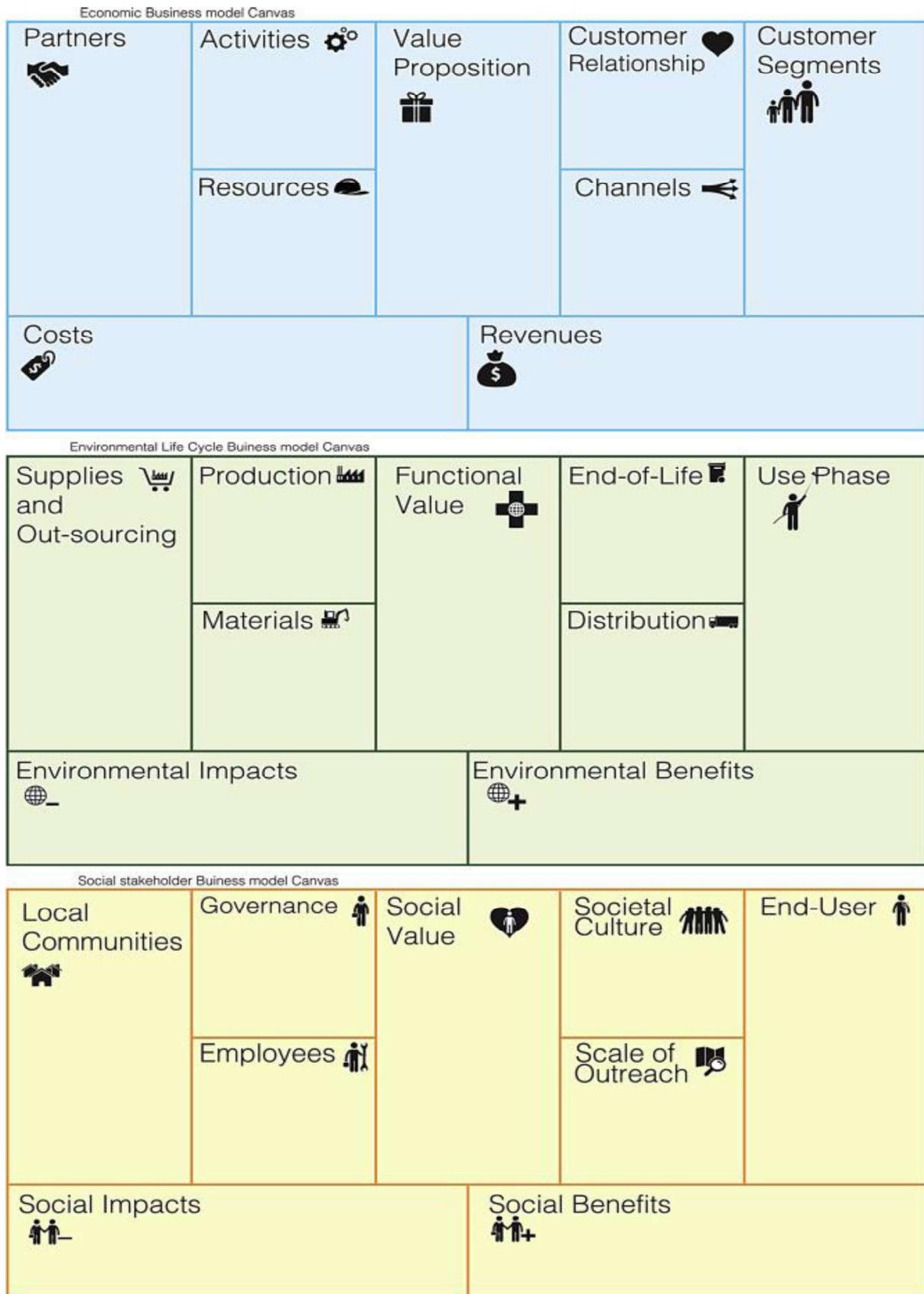


Fig 6. Triple layered business model canvas(Joyce & Paquin, 2016).

Here is the example from Nespresso coffee who has developed TLBMC business model illustrated in figures.

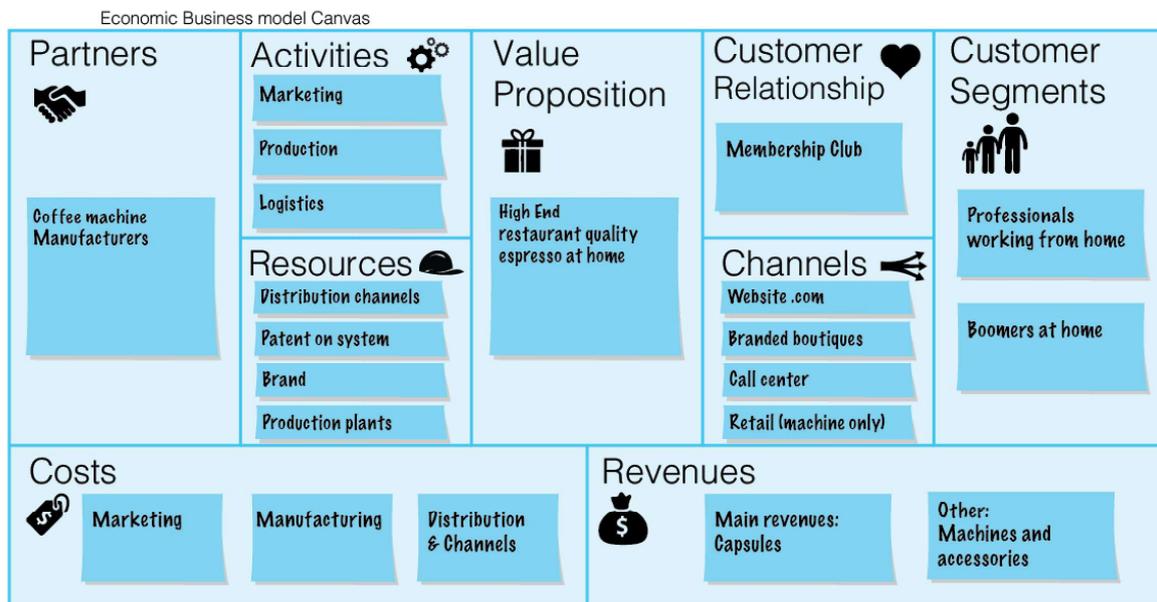


Fig 7. Economic Business Model Canvas of Nespresso (Joyce & Paquin, 2016)

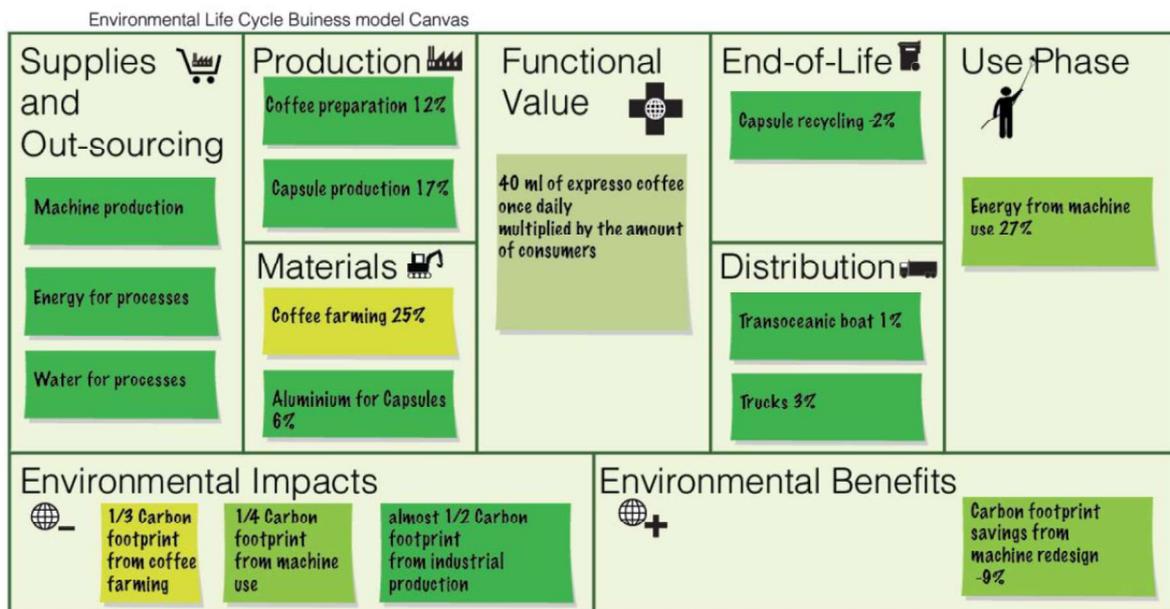


Fig 8. Environmental Life Cycle Business Model Canvas of Nespresso (Joyce & Paquin, 2016)

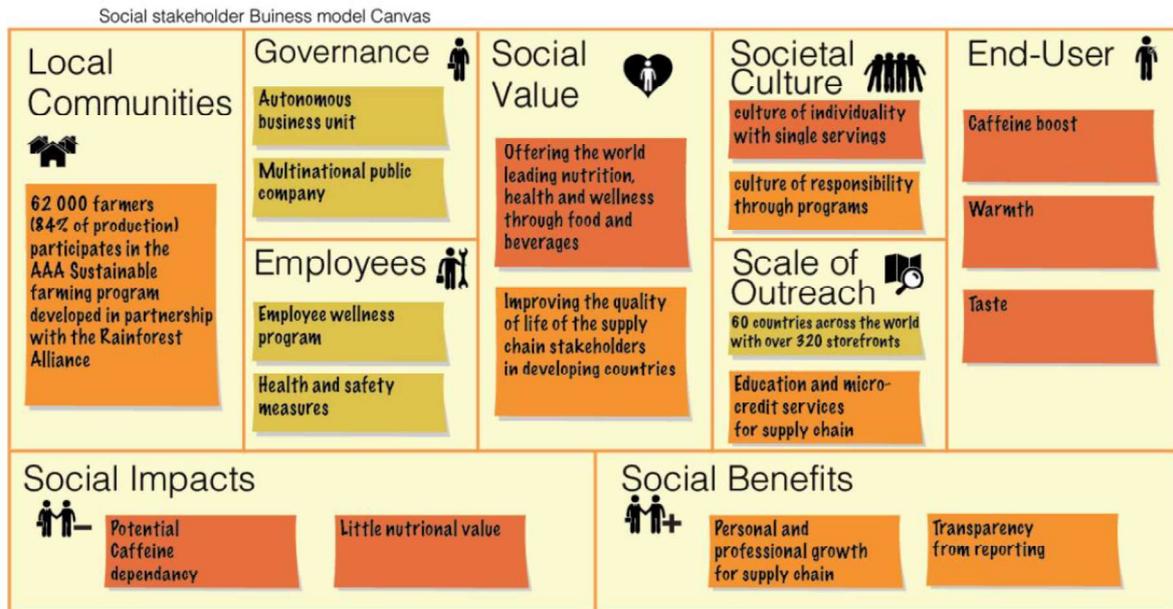


Fig 9. Social Stakeholder Business Model Canvas of Nespresso (Joyce & Paquin, 2016)

There are many big, small or start-up companies which are integrating sustainability issues in their business model. Examples of such small companies are TOMS® shoes, Better World Books, Vyyk and many more (Better World Books, 2018; TOMS, 2018a; Vyykn, 2018).

2.8 Circular Economy and Sustainability

The concept of the Circular Economy has provoked and got noticed since the late 1970s. Several Author has worked to make the concept clear about circular economy through their work (Andersen, 2007; Ghisellini, Cialani, & Ulgiati, 2016; Su, Heshmati, Geng, & Yu, 2013).

The circular economy is presented as the cyclic model system where the concept of utilization of waste as resources through reduction, reuse, and recycling of the elements prevails (ACCIONA, 2018). Circular Economy is defined as "a regenerative system in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing material and energy loops which can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling" (Geissdoerfer, Savaget, Bocken, & Hultink, 2017).

The process of circular economy contributes to innovation, job creation, resources preservation with giving economic benefits to industry(European Commission, 2018). Sustainability aims at benefiting TBL at large (Elkington, 2013), while the Circular Economy benefits to the economic actor who implement the system. But it is also seen to benefit to the environmental improvements and manual labor and fair taxation (Webster, 2017).

Circularity in the business model and supply chains are thought to be important for sustainable manufacturing and in return, it will help for economic and environmental performances improvements of industrialized and developing nations (Rashid, Asif, Krajnik, & Nicolescu, 2013).

Circular economy not only aimed about adjustments of the linear economy to minimizes Its negative impacts but it represents a systematic change benefiting environment and society with building long-term resilience, generating business and economic opportunities(Ellen MacArthur Foundation, 2017).

About the circular economy model, we can learn more from Chinese practices, they had implemented a circular economy implementation law which came to enforce from 1st January 2009 (Beijing Review, 2008). Japan, USA, European Union, South Korea, and Australia are also working in policy level to implement circular economy focusing on waste management sector to integrate with national waste management policy (Sakai et al., 2011).

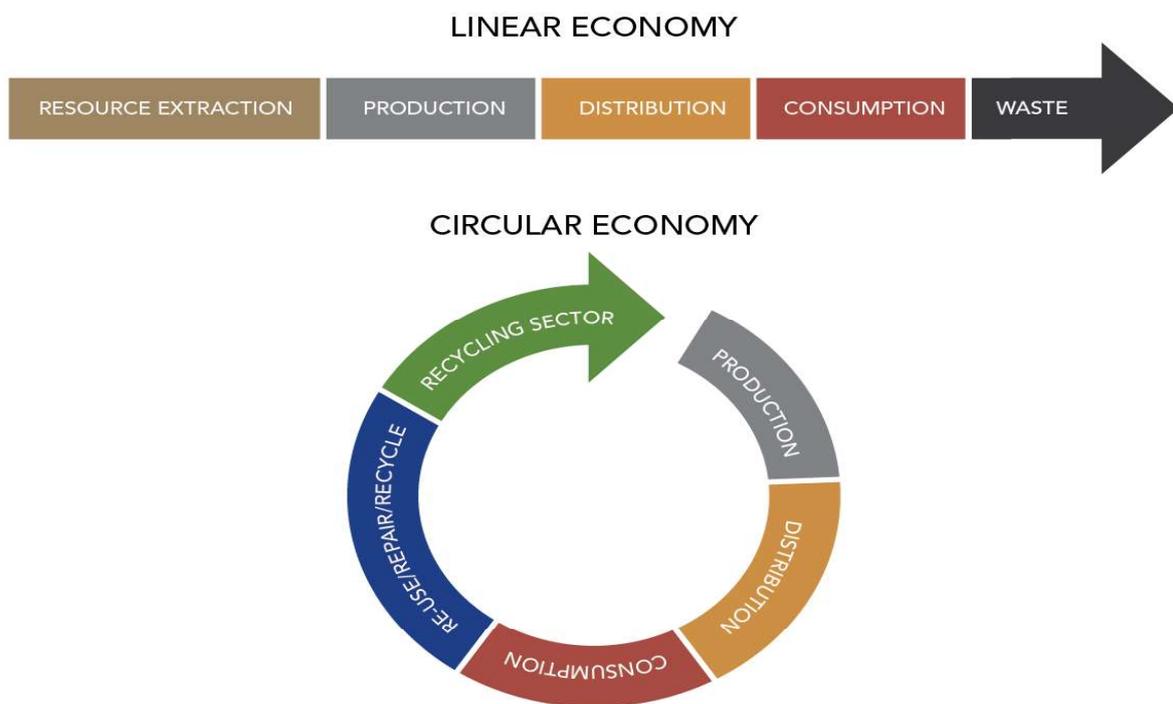


Fig 10. A comparative diagram of the linear economy and circular economy (Redazione, 2017)

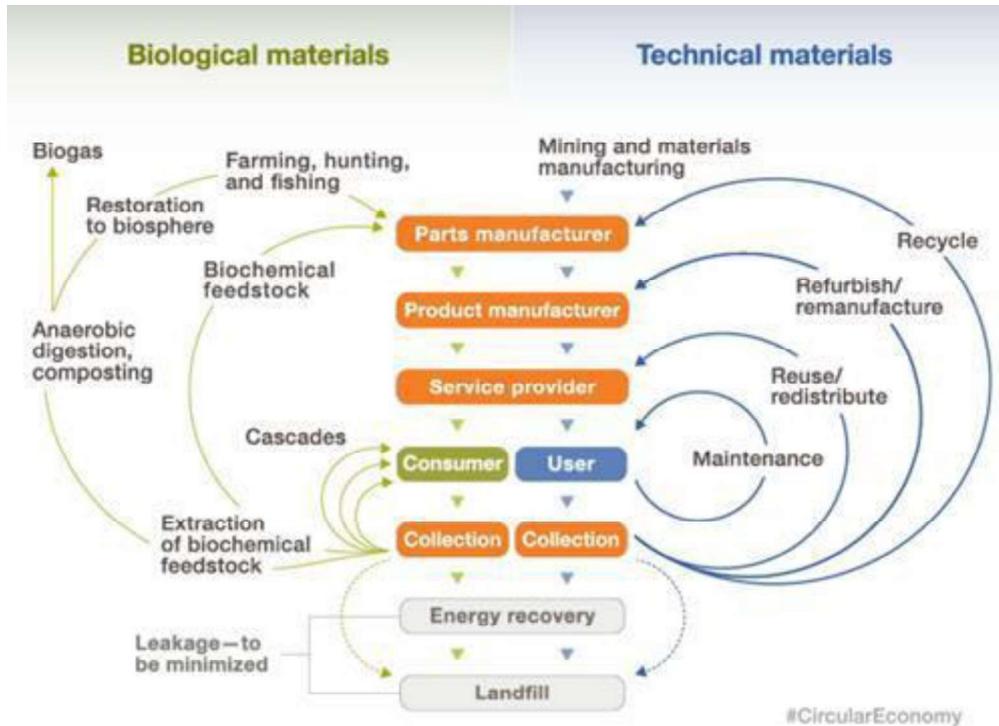


Fig 11. Diagram representing circular economy model (Markus Zils, 2014).

For the production sector adoption of a circular economy program involves the different strategies adopted by company to improve the circularity of its production system and partnering with other companies in supply chain to attain maximum circularity with main aims like clean products, processes and services with reduced waste and secretions flows and to prevent the use of non-renewable resources as well as other detrimental input flows (Ghisellini et al., 2016).

Examples of some companies who are working with are Timberland Shoes who are partnering with tyre manufacturer Omni United to use recycled tyre for shoe production, Aquazone finish company which is working with wastewater treatment and producing biofertilizers and drinkable water, Pharrell Williams with his clothing line RAW is working for Oceans, they recover plastic found on the coastline into wearable clothing (Benzaken, 2018). GEM Co. Ltd waste resources recycling is an example of a company from China which is one of the best examples of how they are working on the circular economy (Xinhua, 2018).

2.9 Norway and Sustainability

For the first time in 1998, the Norwegian accounting Act was enforced so, that all Norwegians registered companies needed to include sustainability-related topics in their director's report (GRI, 2018a).

The government launched its first national White Paper on CSR in 2009. The paper placed CSR firmly in the context of global sustainability challenges and explained the roles and responsibilities of government, civil society, and the private sector when it comes to reporting sustainability performance (Global Reporting Initiative, 2013). The paper also explains how GRI's Guidelines can be used to reach companies' responsibilities for transparent disclosure on key sustainability issues.

Norway has integrated some CSR acts in its constitution. This was included by Norwegian parliament in 2013 in the Norwegian Accounting Act under section 3-3c for large companies (Regjeringen Norge, 2016b). Norway has even taken the urgency of sustainability a step further than including it into the laws, it is also included in the constitution (Lefevre, 2017). Norwegian Accounting Act under section 3-3c for large companies is now regulated by directive 2014 (2014/95 / EU) for CSR (Regjeringen Norge, 2016a) .

The governments has designed its sustainability and CSR policy based on the key international standards the OECD Guidelines for Multinational Enterprises, the UN Guiding Principles on Business and Human Rights, and the UN Global Compact (Regjeringen Norge, 2016b)

2.10 Examples from companies about sustainability practices in their business

2.10.1 Orkla Norwegian business group

Orkla is the business group which is one of the top suppliers of branded consumer specialised in retail, pharmacy and bakery sectors in the Nordic and Baltic regions and selected countries in Central Europe and with some selected products in India also as main markets (Jørgensen & Pedersen, 2018). The information from the online source or website (www.orkla.com) of the company is accessed to collect information how Orkla is integrating UN SDGs in its

agenda and business system and what kind of indicators or system they are using measuring and reporting sustainability results. Work of Orkla can be a strong example for other companies to prepare and implement a sustainability system based on UN SDGs. Orkla is a leading supplier company of consumer goods like foods, confectionary, snacks, health care products, food ingredients, and other investment projects. Orkla ASA is company listed in Oslo Stock exchange. According to data of 31st Dec 2018 company had 18178 workers and turnover of the group is 39.6 billion NOK (Orkla ASA, 2018).

With reference to the information from Orkla Annual Report 2017 (Orkla ASA, 2017) all the information described below are based on. Due to the consumer choice towards sustainable products and due to the pressure from the various stakeholder, the company felt pressure to adopt sustainable approaches. Orkla President and CEO Peter A. Ruzicka signed a personal pledge in April to support the UN's Sustainable Development Goals (SDGs). They have implemented SDGs in its agenda for implementation and to make a contribution to achieving these goals. They are listed in Dow Jones European Sustainability Index for the successive 7 years. The company has identified five main topics on which to focus its efforts, they are nutrition and health, food safety, responsible sourcing, environment and care for people and society. The selected goals of SDGs to achieve by 2025 by the company are

SDG 2: Zero Hunger

SDG 3: Good health and well-being

SDG 8: Decent work and economic growth

SDG 12: Responsible consumption and production

SDG13: Climate action

SDG 14: Life below the water

SDG 15: Life on land

SDG 17: Partnerships for the goals

They have clearly defined how they are going make contributions based on these goals. The choice of topics and indicators for reporting Orkla's sustainability work is based on a materiality assessment, in accordance with the guidelines of the GRI G4 Core reporting standard(Orkla ASA, 2017). The company also follows Oslo Stock Exchange's guidance on reporting on corporate responsibility.

2.10.2 Moelven Industrier ASA

Moelven is a Scandinavian business group that is focused on Production of building products and materials for the construction industry. The company manufactures all kind of products in terms of wood for home, lumber for the industry, glulam, building modules, flexible office solutions, chips and bioenergy (Moelven Industrier ASA, 2018a). We get a good example of how this company is working on sustainability and information about the company is accessed from the company's website www.moelven.com. The company has set the goals based on four main areas to work on sustainability climate-smart product and solutions, safeguards natural resources, focus on people and local values which are linked to UN SDGs 2030 (Moelven Industrier ASA, 2018d). The selected goals are

SDG 3: Good health and well-being

SDG 8: Decent work and economic growth

SDG 13: Climate action

SDG 15: Life on land.



Moelven's four main focus areas and basic premise for sustainability.

Fig 12. Focus area of Moelven for sustainability (Moelven Industrier ASA, 2018c)

The company followed the GRI guidelines of to conduct the analysis that formed the basis for the selection of the four focus areas to work and the criteria for selection of key focus areas are based on important factors for long-term value creation, as well as the nature of correlation with stakeholders (Moelven Industrier ASA, 2018c) . They use GRI guidelines for annual reporting of sustainability performance for the first time in 2017 (Moelven Industrier ASA, 2018d). They also use different kinds of sustainability certification on their products like PEFC™, FSC®, EU Timber Regulation (EUTR), ISO 9001:2015, ISO 14001: 2004, Environmental Product Declaration (EPD®)and more others (Moelven Industrier ASA, 2018b).

2.10.3 TOMS®

Blake Mycoskie founded TOMS Shoes in 2006 (TOMS, 2018a). The story behind starting of this company begins with his tour to Argentina where he saw the poverty of peoples that they are not able to buy a single pair of shoes. So, he thought to do something for them and he came with One for One business model which means for each pair of shoes purchased, one pair of shoes will be donated(Hopkins, 2015; Lindström, 2018).

Started with shoes, now the company sells sunglasses, coffee, bags, and backpacks. With every pair of sunglasses purchased they are helping people who need eye care. Now the company is providing safe drinking water and safe birth kits (TOMS, 2018a). TOMS' business model and CSR plan are simple, it is effective, and its positive for company and community (Hopkins, 2015). The company has well used social media and digital media for storytelling and their CSR Model to create the strong brand (Arezou Naeini, Auditee Dutt, James Angus, Sarkis Mardirossian, & Bonfanti, June 7, 2015). The company is helping over 70 countries partnering with more than 90 giving partners (TOMS, 2018b).

Interview taken by Shana Lebowitz with Blake Mycoskie for Business Insiders he said that this is the very sustainable business model and they are creating a positive impact on society, and achieving the return on investment(Blake Mycoskie, 2016). This model is effective for attaining loyal customers, attracting new customers and effective marketing for less cost with creating strong brand value(Blake Mycoskie, 2016; Hopkins, 2015).

2.11 7sterke

7sterke meaning 7 strong is a Business Association which has central office in Kongsvinger, it includes the industrial companies from 7 municipalities Eidskog, Grue, Kongsvinger Nord-Odal, Sør-Odal, Våler, Åsnes. Established in 07/02/2007. The clusters aim is to get Arena status by the end of 2019 as a continuous work and decision to apply for arena status in 2018 (Innovation Norway cluster program). Its mission is regional business development and policies making, creating regional attraction, stimulating innovation and competence development, and promoting South Headmark as an industrial region (Klosser Innovasjon, 2018).

The cluster has a total of 80 industrial companies as members with approximately 3,000 jobs and approximately 7,000 million kroner in turnover. They represent high value in industry sectors and they need more competency to compete with changing business environment. So, to increase the level of competency 7sterke is working. These are the area where 7sterke provides support for industrial development (7Sterke, 2018). This association work in the following areas.

- 7sterke production networks
- 7sterke HR networks
- 7sterke marketing networks

3 METHODS

3.1 Literature review and database search

This study relies on a mix of different sources primary, secondary and tertiary sources. The interview transcripts and survey results are considered as primary data sources because they are original first-hand documents on the topic by the subjects themselves. Secondary sources are existing documents such as research articles, review articles, case studies, books, and reports. While doing literature review information from tertiary sources are also accessed.

To get the concept and overview literature review was carried out. In addition to getting the more overview and to find the relevant data for the study, secondary data sources were studied. To collect the statistical data and information online data sources were reviewed.

The online literature search was primarily performed through the scientific databases ScienceDirect, and Google Scholar for academic papers. Regular Google was also used for the search of literature from companies and organizations such as reports and studies.

Different words were used in different combination for database search. The main keywords were: sustainability, business, companies, manufacturing, business model, 7sterke, Norway, CSR, circular economy, management, and UN SDGs, sustainability reporting.

Background study was conducted through a database search, company websites, and website of the 7Srerke cluster. This helped to know more about companies before conducting the interview with company representatives. It also saved time and helped to focus more on research questions. Other statistically data about company's information are collected from online database Proff® i.e. www.proff.no. Criteria used to search were company name and location. This database provides an in-depth overview of the Norwegian companies. In this research, this site is used for the secondary data source for financial and organizational overviews.

3.2 Interview

The interview is considered as the formal process of in-depth discussion between one person and answering by one or more person providing information based on experiences, knowledge, and views about the subject matter. There are different types of the interview

like structured, semi-structured and unstructured. There are other types of interviews also based on types of jobs to be conducted.

In this study, we conducted the semi-structured interview of targeted sample companies directly within the restricted time frame. Due to the limited time provided by company representatives and due to make research questions flexible to understand and to make it open-ended semi-structure direct interview was carried out.

The interviewer didn't influence the company representative just they helped to understand the question. So, it was easier to get more information. It was targeted to get the response from about 10 target companies. But the interview was conducted on the annual meeting of association so to make it inclusive and to avoid the feeling of biases to small companies we had sent attached online interview questionnaire, so they could share their information if they found it relevant to them. For small companies, their competency may be less, so they may find it irrelevant for them. So, responses from target companies were used as sample response for study.

Information from literature reviews and interview helped to formulate results with certain suggestions for future work.

4 RESULTS AND ANALYSIS

4.1 Maarud AS

Maarud AS is the food manufacturing company, it is mainly renowned for potato chips production, the history of potato chips production by Maarud dated back to 1936. The total number of workers is 244. The working capital of the company is approximately 2508300 NOK.

Christopher Paul Samways was interviewed as the company representative.

According to information provided by him, they practice CSR and Environmental Management System with the separate department with 7 part-time employees. Due to the availability of limited resources, they are unable to afford adequate numbers of manpower in this department. All workers are from different academic backgrounds. They are updated about UN SDGs and has sustainability goals, so they have future plan to go for sustainability management system compiling with UN SDGs. They also follow Norwegian accounting act for non-financial disclosure about CSR. They are supported by the parent company for these kinds of consultation. MAARUD was the first food manufacturer in Norway to be certified in accordance with ISO 14001 in 1996. In order to satisfy customer expectations, company's expectations and to assemble with the current rules and regulations for safe food production, the company is certified according to ISO 22000. They report monthly and they provide various training and seminars to empower employees. According to him high cost and feeling of no urgency for these kinds of industries to go for standard sustainability system like GRI. They feel they are pressurized to go for sustainability programs especially internally.

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4.2 Schütz Nordic AS

Having started as a Dynoplast licensee in 1997, SCHÜTZ Nordic AS was founded in April 1999 with the ambition to be a leading supplier of packaging systems in the North-European markets. There are 89 workers. The working capital of the company is approximately 10000000 NOK.

Erik Andreas Platek gave an interview as the company representative. According to his provided information, the company practices CSR and Environmental Management System. They have the small local separate department to work for these programs with the help of 3-part-time employees. They are from similar academic background to work for it. They feel the need of Sustainability Management System as it is the culture and part of the management system. They follow Norwegian accounting act for non-financial disclosure about CSR. They have set the sustainability goals as the part of the management system. They have chosen these goals based on customer demand and as an area of new focus. They use external consultant services like ISO and EcoVadis. The company is ISO 22000:2005 certified.

They report their performances annually and they take help from the external body for auditing the reports. They provide internal training and information programs to update employees. They feel pressure to adopt Sustainability programs for the compliance with supplier's demand. They have sustainability goals based on all three pillars of sustainability and they are updated with UN SDGs, but they don't follow such framework till now for a company in Norway.

4.3 Norske Backer AS

The Backer Group is owned by Nibe Elements, which is part of the Nibe Industries Group, located in Markaryd, Sweden. The Backer Group markets a complete range of components and systems for electrical heating for the European market. The group is present locally and processes everything from smaller industrial customers to major component customers. The total number of workers 48 with total working capital approximately 1200000.

Interviewed with Tom Owe Mikalsen as the company representative. According to information provided by him, the company is practicing CSR, Sustainability management system and Environmental Management System. The company is working on all three pillars of sustainability. The company has a special department to work for it. They are practicing it since 2010 AD. They have 2 part-time workers in this department. They think they have enough manpower as per their status. They

follow the ISO system so their manpower is trained on this system. They implement ISO 14001:2015 and ISO 9001:2015. They think the need of Sustainability Management System inside the company is very essential. They are updated with UN SDGs. They follow Swedish guidelines for non-financial disclosure they don't follow Norwegian act about CSR reporting. The company has sustainability goals based on company work process and as an area of new focus. They don't hire external manpower and they take help from certifying organization once a year. They report their work annually. They have internal training programs to empower manpower working for sustainability. According to him, time is the challenging factor for implementing it inside Norway. They feel pressure from customers and regulatory authorities to go for sustainability.

4.4 Retura Glåma

Retura Glåma AS offers collection of all types of waste, container rental/ compactors/presses, transport, reporting/statistics / documentation, approved waste management and security cessation.

Kai Engebråten was interviewed as the company representative. According to information provided by him, they practice CSR and Sustainability Management System. They have no special department to work with it, but they have 12 part-time employees. They feel they are not enough, but lack of resources is the problem. The manpower working for it has a strong academic background. They follow the ISO system. ISO 14001:2004 and 9001:2005

For the company sustainability management system is very important. They follow the Norwegian accounting act for non-financial disclosure. The company has set sustainability goals to go for a sustainable business model. These goals are based on the company's work process, area of new focus and as per customer demands. They don't hire an external consultant and they report twice annually. For them, time is a challenging factor in Norwegian business environment to implement sustainability methods. They feel no pressure to go for the more updated system as the current method they are using is satisfying.

4.5 Klubben AS

Klubben AS is today a leading provider of equipment for swimming and sports halls, gyms, schools, kindergartens, institutions, shops, sports teams, and private individuals. This was started as the family business in 1976. They have 54 workers and total working capital is 736 000. It is a sports outlet.

Kari Heggelund gave the interview as the company representatives. According to information provided by her, they work on the Environmental Management System and Ethical trade. They have no special department and there is only one part-time employee to work for this. They are practicing it for 7 years. They found lack of manpower to work to fully integrate Sustainability Management System as they lack resources and they have limited revenue. The manpower they hired has competency in ethical trade. They feel the need of Sustainability Management System for companies and it is important. They are updated with UN SDGs. They don't follow Norwegian non-financial disclosure act as they no such program to report. They are working with ethical trade as it is important for companies to work process. According to companies like them, the main challenge when it comes about the sustainability system is financial benefits risk. They report their work annually. They feel no urgency and pressure to go for the sustainability management system.

4.6 Nordisk Massivtre AS

Nordisk Massivtre is a manufacturer and supplier of solid wood elements for construction sites.. The total number worker is 8 and share capital is approximately 300000. The respondents for the interview as company representative is Gustav Niklas Grundström. According to information provided by him Company complies with Environmental Management System only. They don't have any special department. One full time and other four employees work for it as they have the competency to work on it. They all have the education from the technical university has experience of more than 15 years of industrial experiences. They think sustainability program is important for the company and they are committed for it. They are not updated with UN SDGs. They have the plan to reach the national requirement of sustainability and CSR

reporting according to Norwegian Accounting act for non-financial disclosure. They have set sustainability goals to go for a sustainable business model. These goals are based on the company's work process, customer demand and demand from other stakeholders. They also hire external consultant 4 hours monthly for workshops. They have monthly reporting goals, but they are unable to implement it fully. They are focused on the production process, so they have a weekly training program. According to him the business challenge in Norwegian environment to work in sustainability is to work methodically and lack of skills to implement it. They feel pressure to go for it as they are committed for it.

4.7 Mapei AS

The company was started as REscon AS in 1976. In 1999, the company became part of the international group Mapei. In October 2011, Rescon Mapei changed its name to Mapei AS and clearly showed that the company belongs to one of the world's largest manufacturers of adhesives, sealants and chemical products for the construction industry. The total number of workers is 189. Total working capital is approximately 24148950 NOK.

Company representative for the interview is Jan Roger Broen. According to information provided by him the company works on CSR, Sustainability and Environmental Management System. They have a special department to work with 3 full-time employees. EMAS certified also ISO 9001 and 14001 certified. Energy and climate change disclosure based on service provided by CEMAsys.com AS. They have a great emphasis on supporting sports and cultural activities at different levels. Knowledge and training are also an important area where they work. They are expert in ISO system and from chemical and engineering studies. They feel the high importance for implementing sustainable management system. They are not updated with UN SDGs goal for the industry. They have sustainability goals based on internal and external needs. They also use external consultant service on regular basis. They report their work monthly. They feel no pressure from anyone as they think they are working with a certain level of standards.

4.8 Glåmdal Interkommunale Renovasjonsselskap

GIR was founded in 1st sept 1994 by the owner municipalities Eidskog, Sør-Odal, Nord-Odal, and Kongsvinger. The company is responsible for the renovation scheme in the four municipalities. Companies have a total of 36 workers.

Sørensen Trond CEO gave the interview as company respondents. According to information given by him the company doesn't have any programs related to sustainability and CSR. The company thinks sustainability is important and they are updated with UN SDGs, but they lack enough resources to implement sustainability programs and they are financially volatile. They may go for sustainability programs in future but no such programs for now.

4.9 Eskoleia AS

Norsk Fjerde og Metalldukkfabrikk (NGM) was established in 1912 at Ryen in Oslo. In the 1970s, the company moved to Kongsvinger, and in 1992 the name was changed to Eskoleia AS. Eskoleia steel production Eskoleia staff development Alternative Crew & Recruitment Eskoleia kindergarten. There is a total number of 97 workers. The working capital is approximately 2000000 NOK.

This interviewed is responded by Erik Nilsen. According to information provided by him, the company is compiled with the Environmental Management System. They don't have any special department, but they have allocated 50 hours of working time and budget for one year. They think it is enough as per the current condition of the company's ability and need. They think Sustainability Management System is important for Company and they are planning for it. They are updated with UN SDGs goal. They follow the Norwegian Non-financial disclosure Act about CSR and Sustainability. They report annually. They have set sustainability goals and they are based on customer demands. According to the business challenges when it comes in the Norwegian environment is to work with sustainability demands and compliance with suppliers and stakeholders. They don't hire any external consultants. They organize training for waste management. They feel pressure to go for better documentation, so they think they should go for sustainability programs.

4.10 Strength Weakness Opportunity and Threat (SWOT) Analysis

Looking over the result and literature review, following SWOT analysis is prepared for companies inside 7sterke. This SWOT analysis is done taking 7sterke as a key player

<p>Strength (internal)</p> <ul style="list-style-type: none"> • The strong collaboration of companies • Association with universities and research organization • Support from the various organization and governmental bodies for research and development 	<p>Weakness (internal)</p> <ul style="list-style-type: none"> • Lack of good research work on sustainability assessment of companies. • Lack of experiences and skilled workforce on sustainability management. • Fear of return on investment and lack of clear understanding of how to gain competitive advantages implementing the sustainable program.
<p>Opportunity (external)</p> <ul style="list-style-type: none"> • New area to work and gain a good reputation and brand value • Can have competitive advantages • Prepare for getting investment opportunity to expand the business 	<p>Threat (external)</p> <ul style="list-style-type: none"> • The growing demand for sustainability performance from stakeholders • The demand for sustainability performance report from financing bodies • The risk from the effects of climate change and other environmental effects. • Competition and need for compliance of documentation for international trade.

4.11 Political, Economic, Sociological Technological, Legal, Environmental (PESTLE) Analysis

After getting the result of the interview, Political, Economic, Sociological Technological, Legal, Environmental (PESTLE) analysis is done to analyze the external environment that can affect to the companies when it comes to implementation of a sustainability program for the companies inside 7sterke.

Political

Looking towards the government works and programs CSR and sustainability are always in priority of the Norwegian government. The government has signed various international declarations on about environmental protection, human rights and UN SDGs 2030 (Regjeringen Norge, 2016b). The government is stable and political stability is good. The current government came to power in 2013 and it is working with the coalition with other minorities parties. Some of the key priorities of this government are employment, climate, and energy policy, education, and research (both domestically and within humanitarian aid), regional consolidation of public services (UK, 2017).

The Norwegian government is conscious about maintaining good international relation and creating suitable international trade relation. So, the government is actively working with EU and EU member countries to create a good business environment (Government of Norway, 2018b). As well as the government is working with other countries and organizations to work on sustainable developments. The new political platformed released by the government this year describes governmental policies and programs which is focused on current challenges Norwegian society is facing (Government of Norway, 2018c).

Economic

Norway is a member of the European Free Trade Association (EFTA) and participates in the European Union (EU) single market through the European Economic Area (EEA) accord. Norway is working to shift its economy from oil gas and fisheries to other sectors. They want to minimize the dependency of its economy on its oil resources by diversifying its

economy(Jorn Madslie, 2016). After the drop of oil price and crisis now again the economy of the country is normal catching positive growth in Gross Domestic Production (GDP).

The financing bodies are focusing on sustainable investment and due to rising concern about sustainability in the future investment companies will ask for a sustainability performance report. Globally it is the topic of discussion and global investors are serious about it. Due to the rising effect of climate change and international politics, there is a need of business to focus on a sustainable future.

Sociological

Norway is always respecting about human rights and they are helping more on humanitarian aid in the world. The country has Anti-Discrimination Act prohibits direct and indirect discrimination based on ethnicity, national origin, family background, skin color, language, religion, and belief (Government of Norway, 2005). The unemployment rate is decreasing and due to the good working environment, Norway is one of the best destinations for work for many peoples from eastern and central European countries. The economic status and education of peoples are good. The consumer consciousness level is high in Norway and people in Nordic regions are conscious about the environment and sustainable future. If we look towards the societal values sustainability is very important for Nordic citizens(Witoszek & Midttun, 2018). If we look towards Norwegian society, they like transparency and honesty in business activity.

Technological

Technology is changing day by day and many companies are going towards automation and cleaner and safer production. Bigger companies are investing more in research and development but for SMEs, it is challenging to invest more in research and development. The government of Norway is supporting companies to go for technological development through different programs. Various universities, research organization, and *Innovasjon Norge* are helping companies in Norway for technological development(Norwegian Innovation Clusters, 2018; Rasmussen & Wright, 2015). Now the technological innovation in industrial sectors are very competitive and focusing towards sustainability(Ram Nidumolu, C.K. Prahalad, & M.R. Rangaswami, 2009).

Legal

Legally Norway is reliable and legal performances are good. About doing business in Norway legal environment are supportive in terms of business establishment, business acquisition, intellectual property rights (IPR), foreign exchange controls rules, etc (Banco Santander, 2018). The Norwegian working environment is protected by act “Arbeidsmiljøloven”. talking about sustainability there is CSR accounting act for bigger companies to report under section 3-3c. The expectations of government in four core areas of sustainability area are climate change and the environment, human rights, workers’ rights, anti-corruption (Regjeringen Norge, 2016b).

Environmental

Global warming and climate are always the topics of concern for Norway. There are various legislations for companies they need to follow according to Norwegian environment agency (Norwegian Environmental Agency, 2018) like

- **Pollution Regulations**
This is associated with controlling various pollutions like noise, air, water, soil
- **Product Regulations**
There are various regulations related to electronic products, chemicals, biological products, ozone-depleting products, etc.
- **Waste Regulations**
This is associated with waste management like electronic wastes, old vehicles, hazardous chemicals, excretion of wastes, etc.

There are other regulations also which are concerned with biological products and gene technology. Norway is situated in such a climatic zone which can be affected severely due to climate change, so the government and other authorities are conscious about environmental protection and minimize the impact of industrialization on nature. Government policies are coming to lower the rate of carbon emission so companies need to be prepared for these changes (Government of Norway, 2018a)

5 DISCUSSION

From the literature review, it was difficult to find similar work done for mapping the need analysis of sustainability education and sustainability management within Headmark region. So, there seems to be a lack of adequate knowledge about sustainability practices for companies, academics, governmental bodies, and all associated stakeholders. This piece of work will probably be the first foundation of research work to inform what is the current practices of sustainability management within the companies of the 7Sterke business cluster in the Headmark region. This work tried to find the status, views, and need of sustainability management program for developing their competency in this competitive business edge. This research has answered research question 1 and 2.

1. “What is the current scenario about sustainability management practices insides companies located inside 7Sterke clusters?”

2. “What is the level of sustainability competency of companies of the 7sterke cluster?”

It is found that most of the companies are following sustainability concept in certain form but that may not be according to the definition of sustainability based on TBL theory. Being industrial companies most of the company are using environmental management system like ISO 1400, ISO 9001 Quality management system and ISO 22000:2005 as well as some larger companies are working in CSR reporting based on Norwegian law for accounting act. ISO 14000 is the important environmentally-based certification for an organizational manufacturing practice, which can support organizational practices but does not make environmental improvements a certainty on its own (Sarkis, 2001). ISO 14001 provides a generic requirement for environmental management, which can be used as a common reference for communicating about environmental criteria with stakeholders. Using ISO 14001:2015 works for environmental management and provides assertion to company management and associated internal and external stakeholders that environmental impact is being measured and improved (ISO, 2018). It is aimed to support one pillar of sustainability environment (Da Fonseca, 2015). From the responses, it is established that most of the companies don't have enough and qualified manpower who can work with sustainability concept and can implement a framework like UN SDGs, GRI, etc. They have a skilled workforce for production line standards like ISO and administrative work like financial performance and CSR reporting based on Norwegian law. Some companies said they practice CSR, but it is not transparent or publicly available. So, there is the problem with the communication of report. CEOs were interviewed, so they are also unable to describe well

which part they are strongly working on but generally, they are working internal CSR activities. Our research is aimed solely how Norway based companies are working on sustainability, but Some CEOs gave answered linked with the activity of mother companies outside of Norway, so they are not considered.

Addressing Research question 3, “How do the companies perceive the need for a sustainability management system and what are the challenges in implementing such a system?”

The most common highlighting challenges form companies are time, budget and financial stability for the implementation of standard sustainability practices. This seems to be fear of return on investment (ROI) and how long it will take to give competitive advantage from sustainability program. Some companies feel no pressure of urgency to go for sustainability practices on the context of the Norwegian market. Some companies feel pressure to go for such program from various stakeholders like suppliers, consumers, and regulatory bodies. From this, we can say that based on the nature of the business, market area and financial position their need for sustainability program is different.

The SWOT analysis and PESTLE analysis showed internal as well as external threats and challenges but there is good opportunity to work and this will be beneficial, but they need to work more to prepare and strengthen the capacity.

From the result of the study, it shows most of the companies are updated with 17 goals of UN SDGs 2030. Some of the companies has plan to go with UN SDG framework in future. It is difficult to say what is the exact reason they are not implementing such framework but analyzing the answers provided by them we can say that cost structure and skilled manpower with sustainability background are some key challenges for them. CEOs and managers of companies seem to follow the trend of sustainability insides the business world, so they are updated with key terms about sustainability. But, in the case of companies inside 7sterke, they seem to be more focused towards productivity and profitability so there needs a clear understanding of how the implementation of sustainability program can help to gain these things.

From the case study of Orkla, we know how the company can set companies goals based on UN SDGs 2030, how to report and communicate sustainability performance and what other

indexes can be combined to act more effectively. They used the GRI framework for sustainability reporting, and they also use DSJI index. This is the strategic approach that is required for good brand value making a positive impact on the economic performance of the company benefiting environment and society. This is an example of how big companies are gaining competitive advantage and becoming economic sustainable implementing standards for business sustainability.

Moelven is the example of how to choose the sustainability goals and to start with sustainability program integrating with business activity. From them, we learn that the goals chosen by the company are based on the need of stakeholders and the area where the company can make maximum impact. They have just started the program and their annual report was published in 2017, So we can learn from them how to make a strategic plan to start with a sustainability program. From them, we can understand a company can have a different kind of certification and declarations, and they can have their own frameworks for measurement and audits, but sustainability comes with measurement, report, and communication of environmental, social and governance (ESG) performance of the company based on certain sustainability framework like GRI.

Profitability is a crucial point for every business and it is the critical point for most of the small and medium scale industries. But due to the lack of resources, they may lack understanding, how to implement a sustainability management system, how it helps in risk management, how it increases profitability and how business can achieve sustainable growth. Small and medium scale companies in 7Sterke can learn from the case study of TOMS Shoes. TOMS also don't implement advance sustainability framework and no clear report is available but also their business model and CSR activity for sustainability is effective. It shows how they used sustainability idea for business growth, effective marketing with a low budget, gaining loyal customers and strong brand development. The lesson from this company is communicating with customers and stakeholders effectively about the idea and work how they are creating a positive impact on people and the planet.

Majority of companies in this cluster are small and medium scales. So, they should implement sustainability frameworks and reporting framework based on size and financial

viability of the company. Till today, it is difficult to say which framework is best for SMEs as there is a lack of a specially designed framework for SMEs. GRI is working on it and its pricing is also different for corporates and SMEs. The similar clusters can work together to design a sustainability framework for measuring and reporting sustainability at the local level like in country level or regional levels. They can consult with governmental authorities and regional organizations to bring such programs giving legal status. The recent Norwegian accounting act doesn't have any regulations for SMEs to report CSR or sustainability approaches. But the truth is not only bigger companies need sustainability program, but small companies also equally need it, and they are also playing a vital role in supporting the national economy. They also have a contribution to society, environment, and economy. For the sustainable and strong economic status of society, the sustainable business model and framework can be designed which can increase the competency of small business by lowering the risk factors of the small business. Based on the size and availability of resources it may be difficult for small companies to go for standard sustainability management system but they can also contribute on sustainability (Shields, Welsh, & Shelleman, 2018). So, cluster formation and collective approach towards sustainability can create a great impact and this can be the new opportunity for the 7sterke cluster to work on.

From the research, it is difficult to say clearly how many companies want to go fully for sustainability because of the heterogeneous mix of companies. For small companies, it is not mandatory, and they are economically not stable, so they are not ready. So, detail study and assessment of every company is required.

6 CONCLUSION AND RECOMMENDATIONS

This is the small piece of work done for the master's dissertation and it can work as a base for further research work. The research has been able to answer the research questions fulfilling the research objectives with some limitations. Based on the study and analysis of result, this research has found understanding, need, actions, capacity and views from companies about sustainability management. Based on the study this research can give some recommendations for the future.

7sterke can establish a separate department to work with the Sustainability Management System. They can collect enough data and other resources through the collective understanding between member companies. This is the heterogeneous mix of the companies so needs and capacities are different. They have limited knowledge, skills, manpower and funding to integrate sustainability system individually. So collective cooperation can create more values with reducing such problems.

The understanding level of companies about sustainability is not enough. Most of them have no clear concept of why business sustainability management or sustainable manufacturing system is needed. How they can be implemented and what kind of competitive advantages they can have implementing it.

This can be the new area of research for the association. They need an in-depth study of companies from small to large. This research only shows what is the current scenario, it shows only the status quo. Now the researches can be directed towards what to do and how to do for sustainability of companies inside 7sterke. Some of the approaches that can made are

- Organising discussion program, talk program, seminars, conferences, for awareness based on UN SDGs and UN global compact and communication of sustainability works
- Conducting Training, lectures, academic courses for capacity building for sustainability and circular economy
- Research and development for the company's process, performances, technology, etc for economic, social and environmental sustainability
- Formulations of local organizational policies and lobbying with the government for legal policies required for operations of programs

- Focus on stakeholder engagement for sustainability through awareness and work compliances
- Future research can be directed towards development of local sustainability standard or frameworks to help small businesses

As this is the industrial association they should work on the innovative culture where they will work on sustainable innovation process continuously. So, they can work on the innovative way like developing the cluster of similar companies and creating a framework for the circular economy. Providing consultation for companies developing suitable sustainability management frameworks and certification with standards. Sustainability inside companies needs continuous research and development to use sustainable technology, process, and product development, so they can run programs in association with partner universities and research organizations.

To sum up we can say that companies can direct its action towards self-assessment about organizational performance based TBL theory for sustainability, can focus on understanding more sustainable frameworks like UN SDGs and reporting frameworks like GRI. They can take suggestions from expert consultations how they can develop strategic sustainability planning with available resources. Sustainability is dynamic process so with learning, implementing, communicating and empowering we can make steps towards sustainability.

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8 Annex:

Annex 1: Interview Questionnaire form

Introduction:

This Survey is for the master's thesis dissertation of MSc Applied and Commercial Biotechnology at Høgskolen i Innlandet. This is the survey interview designed to find out the sustainability status or competency of companies in 7Sterke. Sustainability is becoming hot issues and different stakeholders are creating pressure for non-financial disclosures. This work will try to find out the current situations and need of sustainability management programs inside companies of 7Sterke Cluster for sustainable business growth.

Approx. time for Survey interview 10 mins

Survey interview will be according to your suitability. It can be direct interview or through filling survey form online.

Name of company:

Name of Respondent:

Current Scenario

1. Are there any practices of Business Sustainability?

- Corporate Social Responsibility (CSR)
- Sustainability management system
- Environmental management system
- Not any such program
- Other

2. Is there any special department working on Sustainability?

- Yes
- No

If you are practicing Business Sustainability programs

3. How long you are practicing this program?

.....

4. How many people work with it? No of worker

- Full time.....
- Part time.....

5. Do you think there are enough manpower to work with it?

- Yes
- No. Can you explain the reasons.....

6. What is the background for workers to work on that field? Trainings/ experiences/ educations

.....

Need Analysis

1. Does your company think about the need of Sustainability Management System inside your company?

- Yes
- No
- Not now

2. What do you think about importance of sustainable practice in your company?

.....

3. Is your company updated about UN SDGs goal and role of industries?

.....

4. Does company follow Norwegian accounting act for non-financial disclosure about CSR and sustainability?

.....

5. Has the company established any sustainability goals or plan to go for sustainable business model?

.....

6. How has the company chosen these goals?
- As these are related to works of company
 - As per customers demand
 - Area of new focus
 - Area of competency where company can work effectively for economic growth
 - Demand from partners and others stakeholder
 - No such specific reason

7. What are the expectations of company from Sustainability management system?
- positive impact on planet and people
 - improves corporate reputations
 - improves relations with external groups
 - improves economic condition of company
 - If not listed mention.....

8. What are the business challenges when it comes to sustainability in Norwegian environment?
.....

9. Are you using any external consultant service, technical manpower they are working on sustainability?
.....

10. How often company use external help?
.....

11. What is the employee recruitment method for sustainability department?
.....

12. What is the frequency of sustainability reporting and method or system of sustainability reporting?
.....

13. What is the working area of sustainability program of the employee? Environmental/social/economical

.....

14. What kinds of training program are organized and how often such program is carried out to enhance the skill of sustainability employees?

.....

15. Does your company feel pressure to go for sustainability programs from different stakeholders? If yes, can you explain

.....

Annex 2: The financial status and sustainability programs of observed companies

Company name	Total share capital (NOK)	Total worker	liquidity ratio %	Profitability %	Solvency %	Operating income 'NOK	Profit before tax/NOK	Sustainability program
Glåmdal Interkommunale		36	0.6	-0.1	1.7	48316	-706	NO programs
Eskoleia AS	2 000 000	97	2.26	14.7	56.1	66937	6332	EMS only
Mapei AS	24 148 950	189	1.96	17.5	61.2	848 141	66 407	ISO for CSR, SMS and EMS
Nordisk Massivtre AS	300 000	8						EMS only
Klubben AS	736 000	54	1.71	10.3	41.4	118 116	3900	Buisness Ethics
Retura Glåma	1 000 000	4	2.12	23.9	63.5	26 748	2641	ISO for CSR and SMS
Norske Backer AS	1 200 000	48	1.8	0.8	54.5	79 345	-251	ISO for CSR, SMS, EMS
Schütz Nordic AS	10 000 000	89	2.94	19.3	77	325 999	44 438	CSR and EMS
Maarud AS	2 508 300	244	0.73	25.2	22.8	671 014	59 902	CSR and EMS

Fig. Table showing an overview of the financial status and sustainability programs of observed companies