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CSR AND SUSTAINABLE DEVELOPMENT



MASUDEM

MASTER STUDIES IN SUSTAINABLE DEVELOPMENT AND MANAGEMENT

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INTRODUCTION

Corporate Social Responsibility (CSR) and Sustainable Development are two concepts that form an important foundation in the effort to create a more socially and environmentally responsible business world. The two concepts are intertwined and share a common goal of creating a positive impact on the environment, society and the economy as a whole. This module is designed to provide a comprehensive understanding of both concepts, and how they can be implemented in a modern business context.

In this module, we will explore the basic concepts of CSR, sustainability and sustainable development, and the close relationship between them. We will also review the Sustainable Development Goals (SDGs), as well as CSR-related regulations in both national and regional contexts.

Below is the table of contents of this CSR and Sustainable Development module:

CHAPTER 1: THE CONCEPT OF CORPORATE SOCIAL RESPONSIBILITY (CSR), SUSTAINABILITY, AND SUSTAINABLE DEVELOPMENT

CHAPTER 2: SUSTAINABLE DEVELOPMENT GOALS (SDGs)

CHAPTER 3: REGULATIONS RELATED TO CSR (NATIONAL AND REGIONAL CONTEXT)

CHAPTER 4: THE CONCEPT OF SOCIAL RESPONSIBILITY AND ISO 26000

CHAPTER 5: FIFTH DISCIPLINE, PERSONAL MASTERY, ICEBERG MODEL, MENTAL MODEL AND U THEORY

CHAPTER 6: THE CONCEPT OF CIRCULAR ECONOMY

CHAPTER 7: CONCEPT OF FINANCIAL SUSTAINABILITY

CHAPTER 8: CLIMATE CHANGE MITIGATION AND ADAPTATION MANAGEMENT

CHAPTER 9: CREATING SHARE VALUE (CSV)

This module is expected to be a useful guide for business stakeholders, academics, and practitioners who wish to understand and apply the concepts of CSR and Sustainable Development in their business operations. With a deep understanding of the close relationship between CSR, sustainability, and sustainable development, it is hoped that we can create a more positive and sustainable impact on society and the environment.

CHAPTER 1: THE CONCEPT OF CORPORATE SOCIAL RESPONSIBILITY (CSR), SUSTAINABILITY, AND SUSTAINABLE DEVELOPMENT

This chapter aims to provide an initial understanding of the concepts of CSR, sustainability and sustainable development, which will be deepened in the following chapters. The CSR program is a company commitment to support the creation of sustainable development. Sustainable development is a development process that optimizes the benefits of natural resources and human resources, by harmonizing natural resources with humans in development. By implementing a CSR program on the concept of sustainable development within a company, it will make it easier for businesses within a company to implement programs to be included as part of the business strategy. This is also for sustainable growth and development for prosperity.

1.1 Concept of CSR

Corporate Social Responsibility (CSR) has received increasing attention from public companies, government agencies, and researchers. CSR relates to company stakeholders who directly or indirectly influence or are affected by the company's actions. CSR is considered a form of long-term corporate investment that can have a positive effect on competitive advantage. Implementing CSR in companies is no longer just a cost, more than that, CSR is considered a form of company investment. Carrying out a CSR program means that the company will budget expenses. These costs will later become expenses that reduce income, which means a reduction in profits for the company. However, by carrying out a CSR program, the company's image and good name will be created which will have an impact on increasing consumer loyalty.

According to Carroll (2016), CSR is understood as a policy and practice from business actors that can protect the strategies and operations of society/stakeholders. The definition of CSR includes 4 aspects: corporate social responsibility relating to the economy, law, ethics and philanthropy to society at a particular moment. These four aspects form the framework for implementing CSR activities known as Carroll's CSR Pyramid. According to Tyagi et al., (2018), an organization that wants to improve its reputation, manage risk and customer loyalty amidst market competition through CSR activities. CSR is the company's commitment to improving the welfare and development of society through company business functions that can contribute to company resources. Thus, companies that demonstrate commitment to organizational goals involving society to achieve a better life, tend to attract investors. According to Bowrey and Clements (2019), CSR activities are not only in operating organizations, but include all supply chain activities in which the organization operates. CSR involves all stakeholders ranging from individual organizations, employees, customers, shareholders, managers, business partners to the government. CSR includes responsibility for operational aspects both internal and external in the supply chain (transport, production, packaging, working environmental conditions). Organizations that support their social responsibility throughout the supply chain benefit in the form of opportunities, innovation and competitive advantages in CSR performance. Corporate social responsibility is a manifestation of the demands of external stakeholders.

Table 1.1 A basic framework for approaching CSR from a historical perspective, based on definitions of the surveyed literature. Source: Stutz (2018).

	Firm-centric definitions, focusing on the practices of business	More integrated definitions, focusing on business-society relationships
Economic Orientation	'Porter and Kramer argued, in broad terms, that businesses which create economic value by addressing the needs and challenges in society might enhance a competitive advantage. Ansvar provides a historical example of how shared value was created between the company and one of the largest popular movements in Sweden – the temperance movement.' (Bergquist & Eriksson, 2017, p. 16)	Broad view: '... companies and entrepreneurs defined their responsibilities depended to a large extent on the criticisms launched by the outside world. Entrepreneurs and company managers responded to concerns in the society of which they formed part, and the progressive ones among them, the true leaders, searched for ways of reconciling the requirements of their business with the demands of the society.' (Sluyterman, 2012, p. 313)
Critical Orientation	Between 1945 and the early 1960s, the concept of 'social responsibility' became popular among business leaders because it provided a language and loose set of ideas to help them improve their image and strengthen their ability to negotiate their relationship with the government.' (Chapin, 2016, p. 1)	Narrow, historical cognisant view: 'CSR, we propose, is one form of business-society interactions reflecting a unique ideological framing.' (Djelic & Etchanchu, 2017, p. 641)
Politico-Ethical Orientation	'CSR implies pursuit of social good by businesses (Bowen,1953; Fredrick, 1960; Walton, 1967) and given that Bombay's mills accommodated needs and roles of employees as human beings, parents, family members and citizens, this would have made them responsible.' (Jammulamadaka, 2016, p. 451)	Broad view: 'As a concept, it is the idea that the corporation exists in society and has rights and responsibilities as a member (or citizen) of that society.' (Carroll, Lipartito, Post, & Werhane, 2012, p. 7)

Economic perspective, looking at businesses that create economic value by meeting needs and challenges in society can increase competitive advantage. A critical perspective, which naturalizes the strict boundaries between the public and economic spheres. This position views voluntary and strategic corporate self-regulation through CSR as a way to serve business interests at the expense of civil society. The third perspective, political-ethical, is based on various philosophical traditions that consider the economic, social, and political to be interconnected. CSR is seen as a means to advance social goals and legitimate objectives. Table 2 shows theoretical perspectives to CSR from economic, critical and politico-ethical perspectives:

Table 1.2 Meta-theoretical perspectives to CSR. Sources: Heikkurinen and Mäkinen (2018)

Dimensions	Economic perspective	Critical perspective	Politico-ethical perspective
Description of CSR	CSR as an instrument for advancing the long-term financial value of the firm	CSR as embedded in the neoliberal discourse	CSR as both a means to acquire legitimacy and an end in itself
Broader Underlying Assumptions	-Classical-liberal conception of business-society relationship: Strict separation between business and public spheres	-E.g., Postcolonial theory -Criticising the extension of business influence at the expense of civil society	-E.g., Pragmatism or Habermasian philosophy -Attempting to re-embed business activity into society
Practices, Behaviours and Mechanisms	-CSR practices have both a voluntary and discretionary nature (but likely to be justified in fiscal terms via business case) -External pressure to comply with demands: Seen as violating the principle of voluntarism	-CSR practices related to practices of manipulation and exploitation -CSR as a means to acquire power by corporations	-CSR practices are directly concerned with the public welfare -Business internalize the 'right' behaviour or societies 'softly' regulate corporate conduct through CSR expectations
Representative Examples in the CSR Literature	-Carroll (1979) Jones (1995) Wood (1991) Porter and Kramer (2011) Aguinis and Glavas (2012)	-Banerjee (2008) Hanlon and Fleming (2009) Shamir (2004)	-Freeman et al. (2010) Scherer and Palazzo (2007)

To summarise, this section has argued that historical CSR studies are underpinned by theoretical ideas and assumptions of three distinct traditions of CSR thinking, and the subject matters embrace firm-centric issues as well as integrated studies of the business-society interface.

1.2 Concept of Sustainability

Sustainability means being able to meet current needs without jeopardizing future rights and needs. Continuity/Sustainability is built on what is called "3P", or "economic, social and environmental" (Profit, Planet, People). The concept of sustainability has a context in physical, biological and engineering aspects. The term sustainability is abstract; which means the ability to maintain in the long term. The problem with 'sustainable development' is that, like many words in the development lexicon, its power lies in its ambiguity: 'sustainable development' means different things to different people.

In 1987, Brown et al. identified three "perspectives, or contexts, in which the term [sustainability] is used" emerging from their literature review (Brown et al., 1987). The "social" perspective focuses on "the continued fulfillment of basic human needs" of individuals, while the "ecological" perspective focuses on "the continued productivity and functioning of ecosystems" as well as the "protection of genetic resources and conservation of biodiversity", and defines the elusive 'economic' as meaningful. resolve the "limitations that a sustainable society must face towards economic growth". For Brown, this

is a different perspective on the same concept emerging from the literature, closer to observation than anything approaching a conceptual framework.

In the same year, Barbier articulated the development process as "an interaction between three systems: the biological system (and other resources), the economic system, and the social system", which provided an initial introduction to the intersecting circle diagram (Barbier, 1987). Each system has a goal: "genetic diversity, resilience, biological productivity"; "satisfying basic needs (reducing poverty), increasing equality, increasing the benefits of goods and services"; and "cultural diversity, institutional sustainability, social justice, participation". The goal of sustainable development is to "maximize system-wide goals through processes of adaptive exchange."

Hancock (1993) uses a three pillar model in an attempt to consider 'health' issues alongside sustainable communities. Hancock proposed a shift in focus from economic development to "a system of economic activity that enhances human development while maintaining environmental and social sustainability". The 'Venn diagram' model presents health, or 'human development', as a confluence of three systems that meet several requirements: a 'friendly' 'community', a 'decent' 'environment', and a 'decent' 'environment'. livable' in relation to society, and an economy that is 'moderately prosperous', 'fair' in relation to society, and 'sustainable' in relation to the environment. At first glance, this model is very similar to the contemporary model of the three pillars, but this model presents the economy as an economy that is 'submissive' to society and the environment, not as an entity that must make trade-offs.

Munasinghe (1993) states that 'sustainable development' encompasses "three main viewpoints: economic, social, and ecological", where progress is best achieved through the integration of competing goals that are "incommensurable". Furthermore, there are three different approaches to 'sustainability' or 'sustainable development': an economic approach that maximizes income while preserving capital stocks, an ecological approach that seeks to preserve biological and physical systems, and a sociocultural approach that embraces equality and participation (Munasinghe 1993).

Basiago describes sustainability as a methodology designed to maximize the vitality of social and environmental systems (Basiago 1995). Economic methods of defining sustainability have been described (along with biological, sociological, planning, and ethical methods), although Basiago argues that "a major restructuring of the economy is implicit in economic methods". The work of Goodland and Daly (1996) seeks to differentiate the concept of 'environmental sustainability' from social and economic sustainability. They largely take a systems-based approach to the environmental pillar, and define it in terms of input-output laws. They are critical of what they see as the term 'sustainability' which has now become a dumping ground for everyone's environmental and social wish lists (Goodland and Daly 1996). In contrast to a holistic integrated approach, they argue that the three "types" of sustainability are "most clear when separated", and that "the scientific disciplines best able to analyze each type of sustainability are different".

In contrast, Milne argues that 'sustainability' is generally accepted to be about integrating social, economic and ecological values, but warns of a lack of agreement in interpretation, distinguishing between authors who call for 'balancing', and those who prioritize biological aspects. aspects (Milne, 1996). Milne leans towards the latter, and concludes that sustainability requires the subordination of traditional economic criteria to criteria based on social and ecological values. The World Resources Institute, which seeks to produce environmental indicators for 'sustainable development' argues that sustainability involves – at least – the interaction of economic, social and environmental factors arguing that attention to these factors has received insufficient attention. They also argue that sustainable development is an attempt to "reconcile or create a balance" between these factors (Hammond et al. 1995).

1.3 Three Pillars Sustainability

The last 20 years have witnessed a surge in publications on ‘sustainability’, to the extent where ‘sustainability science’ is often seen as a distinct field (Kajikawa et al. 2014). Despite this, ‘sustainability’ remains an open concept with myriad interpretations and context-specific understanding. One particularly prevalent description of ‘sustainability’ employs three interconnected ‘pillars’, ‘dimensions’, ‘components’, ‘stool legs’, ‘aspects’, ‘perspectives’, etc. encompassing economic, social, and environmental (or ecological) factors or ‘goals’. It should be noted here that these competing terms are primarily used interchangeably, and our preference for ‘pillars’ is largely arbitrary. This tripartite description is often, but not always, presented in the form of three intersecting circles of society, environment, and economy, with sustainability being placed at the intersection, as shown in Figure 1.1. This graphic is found in various forms as a descriptor of ‘sustainability’ within academic literature, policy documentation, business literature, and online, and whilst often described as a ‘Venn diagram’, it commonly lacks the strict logical properties associated with such a construction. Alternative manifestations include the three depicted visually as nested concentric circles or literal ‘pillars’, or independent of visual aids as distinct categories for sustainability goals or indicators. Whilst attractive for their simplicity, the meaning conveyed by these diagrams and the wider ‘pillar’ conception itself is often unclear, hampering its ability to be coherently operationalised. If we are prepared to overlook the lack of semantic clarity and confusion of competing terms, it can be argued that the ‘three-pillar’ conception of ‘sustainability’ (or ‘sustainable development’¹) is a dominant interpretation within the literature. Yet the conceptual origins of this description, and the point at which it emerged into the mainstream, are far from clear, and its exact meaning is a matter of contention. As Thompson puts it, “much of the...discourse around sustainability...is organized around...the three-circle rubric without much disciplined thought about how it does and does not translate into a more comprehensive understanding of sustainability” (Thompson 2017).

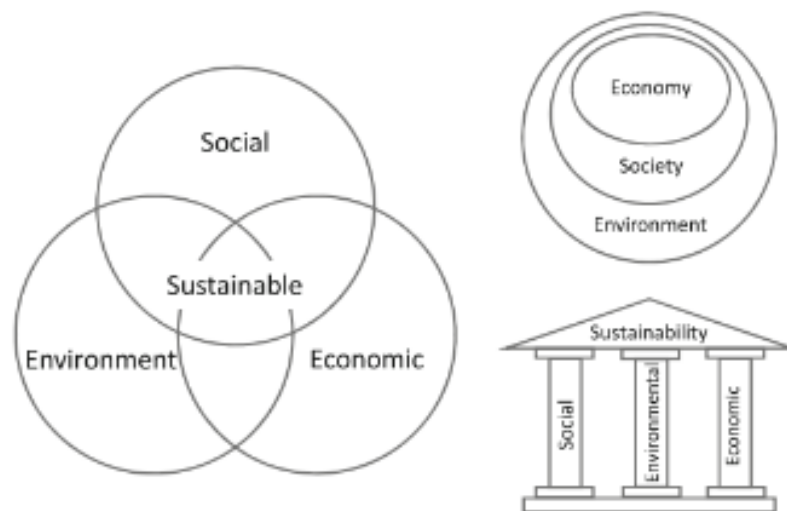


Figure 1.1 Representation of sustainability as three intersecting circles, literal ‘pillars’ and a concentric circles approach
Source: Purvis, Mao, Robinson (2018)

Although much of the contemporary sustainability literature centers on the UN's more diverse set of sustainable development goals (SDGs), the three pillars are explicitly embedded in its formulation (UN). The emergence of the three-pillar paradigm, with little theoretical foundation, is essentially a product of

the origins of 'sustainability' as a concept, aided in part by the agendas of various actors who helped shape its early history.

1.4 Concept of Sustainable Development

Sustainability within business is not a black-and-white thing; it's not that a company either has or doesn't have initiatives driving toward sustainability. Whether they know it or not, almost all companies have some activities that further the cause of sustainability. Those that have sustained their own financial success and provided long-term employment for many have at least part of the sustainability equation right. Unfortunately, companies that suffer adverse press because of some misstep concerning their environmental or social performance may find that bad news overshadowing anything positive they do. While the public lambastes ExxonMobil for its stand on climate change and for alleged human rights abuses by the Indonesian military it hired to secure a project, few acknowledge the company has a world-class safety program. Nor do they recognize ExxonMobil's pipeline project in Cameroon and Chad, which has shown how large development projects of transnational corporations can be structured to guarantee ongoing benefits to local citizens. Altria's extensive charitable giving is forgotten when the safety of its products is debated. Shakespeare was right: "The evil that men do lives beyond them; the good is oft interred with their bones." Even so, the good that these companies have done and continue to do has helped them sustain operations through community and employee support, improved efficiencies, and in other ways.

Other companies like Shell Oil Corporation (Shell), BP (formerly British Petroleum), Hewlett-Packard (HP), Statoil (a Norway-based oil and gas producer), and Baxter lie on the opposite end of the spectrum. For years they enjoyed a solid public image in many circles when it came to sustainability. Certainly each has had many commendable accomplishments. Yet they are not perfect either. Within the past few years, all five companies suffered setbacks in credibility with investors—Shell for overstating oil reserves, Statoil for ethical improprieties in Iran, BP for Alaskan pipeline leaks and fatal refinery explosions, and Baxter and HP for failing to meet sales and earnings projections. Added to Shell's woes were well-publicized "alternative Shell reports" by Friends of the Earth, Inc., criticizing the company for what it claimed were shortcomings in fulfilling its sustainability commitment in the field. Said Shell's new CEO Jeroen van der Veer: "Recent events have only reinforced the importance of embedding sustainable development consistently in our systems, processes and behavior." He added: "People who accuse us of getting distracted by sustainable development miss the mark. Indeed, to see growing awareness in the financial community that companies especially energy companies ignore sustainable development concerns at their peril." Fortunately all five companies are strong. Now under new leadership, all five seem on the mend, and should continue to see positive results from their attention to sustainability.

Firms like Dow Chemical Company and Procter & Gamble (P&G) that have pursued sustainability aggressively and openly have their own challenges. Still, their focus on sustainability is proving advantageous as well. But even the best of them have not reaped all the benefits that a fully deployed SOS can offer. Although the term had been in use for some time (e.g. IUCN, UNEP, WWF 1980), the Brundtland commission is widely credited with popularising the concept of 'sustainable development' by introducing it into international policy discourse (Johnston et al. 200.). It defined 'sustainable development' as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". In the years following the publication of the Brundtland Report, 'sustainable development' became the dominant paradigm of the environmental movement, and the literature considering it grew exponentially.

Summary

The definition of CSR is differentiated based on two dimensions that build a basic framework: first, it tends to lead to an economic, critical and political ethical orientation. The second, firm-centered, focuses on business practices, or an integrated view of the relationship between business and society. Guidance on Social Responsibility of the International Organization for Standardization (ISO) defines social responsibility to be actions of an organization to take responsibility for the impacts of its activities on society and the environment, where these actions are consistent with the interests of society and sustainable development; are based on ethical behavior, compliance with applicable law, and intergovernmental instruments; and are integrated into the ongoing activities of an organization.

Sustainability means being able to meet current needs without endangering future rights and needs. Continuity/Sustainability is built on what is called "3P", or "economic, social and environmental" (Profit, Planet, People). The concept of sustainability has a context in physical, biological and engineering aspects. The term sustainability is abstract; which means the ability to maintain in the long term. Sustainable development defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

Discussion questions

1. What are the common ways that companies implement CSR? Are there any benefits of CSR for SMEs?
2. What makes a process or business sustainable? Are there any drawbacks to sustainability?
3. What is the relationship between sustainable development and the issue of environmental damage?
4. Make an analysis of the CSR program in your country.
5. Who is calling for sustainable development goals and why?

Suggested reading

- Basiago AD (1995) Methods of defining "sustainability". *Sustain Dev* 3:109–119. <https://doi.org/10.1002/sd.3460030302>
- Blackburn, William, R. (2007). *The Sustainability Handbook*. Published by Taylor & Francis, Earthscan. UK and USA.
- Bowrey, G., & Clements, M. (2019). Supply Chain Legitimation through CSR Reporting. *Australasian Accounting, Business and Finance Journal*, 13(1), 27-43.
- Brown BJ, Hanson ME, Liverman DM, Merideth RW (1987) Global sustainability: toward definition. *Environ Manage* 11:713–719. <https://doi.org/10.1007/BF01867238>
- Carroll, A. B. (2016). Carroll's pyramid of CSR: taking another look. *International journal of corporate social responsibility*, 1(1), 1-8.
- Goodland R, Daly H (1996) Environmental sustainability: universal and non-negotiable. *Ecol Appl* 6:1002–1017
- Hammond A, Adriaanse A, Rodenburg E et al (1995) Environmental Indicators: a systematic approach to measuring and reporting on environmental policy performance in the context of sustainable development. World Resources Institute, Washington
- Hancock T (1993) Health, human development and the community ecosystem: three ecological models. *Health Promot Int* 8:41–47. <https://doi.org/10.1093/heapro/8.1.41>

- Heikkurinen, P., & Mäkinen, J. (2018). Synthesising corporate responsibility on organisational and societal levels of analysis: An integrative perspective. *Journal of Business Ethics*, 149(3), 589–607.
- Johnston P, Everard M, Santillo D, Robe`rt K-H (2007) Reclaiming the definition of sustainability. *Environ Sci Pollut Res* 14:60–66. <https://doi.org/10.1065/espr2007.01.375>
- Kajikawa Y, Tacoa F, Yamaguchi K (2014) Sustainability science: the changing landscape of sustainability research. *Sustain Sci* 9:431–438. <https://doi.org/10.1007/s11625-014-0244-x>
- Milne MJ (1996) On sustainability; the environment and management accounting. *Manag Account Res* 7:135–161. <https://doi.org/10.1006/mare.1996.0007>
- Munasinghe M (1993) Environmental economics and sustainable development. The World Bank, Washington
- Purvis, B., Mao, Y. and Robinson, D. (2018). *Three pillars of sustainability: in search of conceptual origins*. Sustainability Science.
- Stutz, Christian (2018). History in Corporate Social Responsibility: Reviewing and Setting an Agenda. *Business History*, 63(2), 175-304. <https://doi.org/10.1080/00076791.2018.1543661>
- Thompson PB (2017) *The spirit of the soil: agriculture and environmental ethics*, 2nd edn. Routledge, New York
- Tyagi, M., Kumar, P., & Kumar, D. (2018). Assessment of CSR based supply chain performance system using an integrated fuzzy AHP-TOPSIS approach. *International Journal of Logistics Research and Applications*, 21(4), 378-406.

CHAPTER 2: SUSTAINABLE DEVELOPMENT GOALS (SDGs)

The challenges facing the world today are enormous. Ecological, economic, geopolitical, demographic, and technological forces shape an uncertain landscape in search of new balances, adaptive coordination structures, and resilient coping mechanisms. Current realities such as climate change, global warming, accelerated loss of biodiversity, depletion and pollution of important natural resources, increasing disparities in income, well-being and life perspectives, stagnating economic growth and geopolitical tensions make our society vulnerable in many ways. Which is unpredictable. Take, for example, global population growth, which at first glance, might appear to be a relatively easy demographic factor to assess with clear and predictable consequences. By 2050, the earth may have to feed around 9.7 billion people. This means that food demand is estimated to be 60% higher than today. If not addressed effectively, malnutrition, hunger and conflict may result. If not handled responsibly, the impact will be ecological degradation, loss of biodiversity and depletion of natural resources. World population growth also means increasing demand for health services, education, housing, energy, transport, connectivity and jobs that generate decent incomes.

2.1 Concept of SDGs

Developments in digital technology will continue to influence our ability to address these complex social challenges. The Internet has significantly changed the way we live, work, organize and organize society, thereby influencing or redefining values such as security, privacy, economic value, accountability, justice and inclusivity. However, the impact of the mass introduction of social media and instant connectedness on our (social) skill development, productivity, and mental, emotional, and physical health remains largely unclear. Digital developments improve problem-solving capabilities, for example by producing better data, fit-for-purpose intelligence, and smarter coordination. However, digital developments can also strengthen concentrations of power, inequality (“digital divide”), erosion of civil rights and disruption of governance, thereby exacerbating social tensions and violent dynamics.

Amid this rapid development, gender gaps in important areas such as access to health, education, earning potential, and political power are slowly closing, despite recognition that gender equality makes economic sense. Based on current calculations, it will take another 118 years to eliminate the economic gender gap. These challenges, and many other related developments, are deeply interconnected, global in scale and complex in nature. How to approach them effectively is debatable and depends on the insights that emerge. The above example is just one of the highly interrelated impacts triggered by global change processes. The UN Sustainable Development Goals (SDGs) were released as part of the 2030 Sustainable Development Agenda on 25 September 2015. On that date, all 193 UN member states unanimously committed to achieving 17 ambitious and interrelated Global Goals by 2030 (UN, 2015). These goals were set after a nearly three-year global multi-stakeholder consultation process involving hundreds of large and small companies, governments, civil society groups, knowledge institutions and other organizations. In fact, the SDGs represent the most extensive public consultation in UN history. The UN 'MyWorld2015' survey asked 9.7 million citizens what they would like to see included in the new goals replacing the previous Millennium Development Goals set in 2000. The 17 goals and 169 targets resulting from this global consultation ranged from eradicating poverty and hunger to, increasing access to health and education and guaranteeing human rights, to climate action, protecting ecosystems and maintaining biodiversity (Figure 2.1).

The SDGs aim to advance various important themes of sustainable development simultaneously, with universal coverage, involving all societal stakeholders and through an inclusive approach. But they also received criticism for being too ambitious and too complex or not being ambitious enough, especially with regard to the modalities of their execution and the omission of addressing crucial financial considerations like who is going to pay? Notwithstanding this highly relevant and critical discourse, the SDGs are generally considered to constitute the leading frame of the global sustainable development.



Figure 2. 1 The Sustainable Development Goals
Source: Rob van Tudler and Evelin van Mil (2022)

2.2 Recognition of The New Paradigm

The timely importance attributed to the SDGs as a leading global frame, with a shared vision, goal-oriented focus and integrated procedure, immediately became evident. An overwhelming number of organizations from all parts of society embraced them:

National governments and international organizations: all UN member countries adopted the SDGs as a universal and inclusive ambition (UN, 2015). The SDGs additionally received support from a wide variety of international organizations, including the World Bank, the International Monetary Fund (IMF), the Organization for Economic Cooperation and Development (OECD), the World Resources Institute (WRI), the World Business Council for Sustainable Development (WBCSD) and the World Economic Forum (WEF). The WBCSD described the SDGs as “an effective way for companies to communicate their contribution to sustainable development”.

Individual companies responded supportively: 71% of globally operating companies immediately claimed that they were already planning on how to engage with the SDGs, with 41% stating that they would embed the SDGs in their strategies within five years (PwC, 2015). Additionally, 87% of a representative sample of CEOs worldwide believed that the SDGs would provide an opportunity to rethink approaches to sustainable value creation, while 70% of them saw the SDGs as providing a clear framework to structure sustainability efforts (UN Global Compact and Accenture, 2016). There was a clear business logic to these responses since it was assessed that contributing to the SDGs could unlock at least \$12 trillion in business opportunities (Business & Sustainable Development Commission, 2017). The support

for the SDGs from influential global corporate platforms was even more unequivocal. In particular, the World Business Council for Sustainable Development, which encompasses more than 80 global companies (e.g. DuPont, 3M, Nestlé, BP, Danone, Royal Dutch Shell) had been involved in the formulation of the SDGs.

International civil society organizations (NGOs) were markedly supportive of the SDGs as well. World Wide Fund for Nature (WWF), for instance, one of the most prominent environmental NGOs, classified the SDGs as “different from anything that came before them – they’re fairer, smarter, and more inclusive”. WWF was closely involved in the drafting of the SDGs, as were many other international NGOs. The SDGs include many aspects that the organization deeply cares about. However, like any other NGO, WWF also acknowledged that this was only the start of the ‘hard work’: “It’s now up to us all – governments, charities, businesses, and most of all citizens – to work together to ensure that these commitments become a reality.

2.3 The Potential of SDGs

The implementation of SDGs in 2015 was a follow-up to the finalization of the Millennium Development Goals (MDGs). The MDGs began in 2000 with less ambitious goals, focusing on eight priorities (and 21 targets) such as child survival, basic education, improving women's rights, and halving world poverty and hunger by 2015. clearly, without appropriate indicators for domestic issues such as income inequality (Kabeer, 2010), and does not include important dimensions of sustainable development such as environmental sustainability related to consumption and production flows. Most of the MDGs were donor-driven – implying that the goals were linked only to government policy. Community stakeholders were not involved in the consultation process. The MDGs also do not mention the need for institutional reform.

While the MDGs aimed to reduce poverty by half, the SDGs aim to eradicate extreme poverty in all its variants by the year 2030. Even for many optimists, this goal is deemed unrealistic and may lead to discouragement once participants realize that targets will not, not fully or not evenly be achieved. The 17 SDGs have also been considered too broad. This line of critique was formulated in particular by the Copenhagen Consensus Centre and its director Bjørn Lomborg. The articulated concern is that the SDGs lack focus – which might get the world ‘stuck in transition’ – not least because the ambitions require immense financial, human and intellectual contributions. Matters of execution – in particular financial considerations – have been left open in the process, which leaves the goals without dedicated means and priorities. Not making choices may create further stagnation. Lomborg argued that from the appearance of the extensive set of goals and targets, the UN “simply threw everything they had heard into the document”. The SDG-agenda fed into a political inclination to “promise all good things to everyone” (Lomborg, 2018). The targets are, therefore, asserted to be misguided and not based on sound research of what is feasible. Even worse, collecting data on the 169 targets could cost almost two years of development aid. These critics hence argued that the 2030 Agenda will probably leave the world’s poorest worse off than they could be without it.

Several scholars suggested that the SDGs do not actually present a paradigm change. They deemed the new agenda too conservative to be a real transformational swing, as it set goals to address global challenges without tackling either their causes or power dynamics. The SDG-framework had skirted the question of viable policies – leaving the establishment of implementation plans to national governments. The SDG-framework had also avoided contentious subjects and commitments in order to be able to reach a global ‘weak consensus’, with essentially non-binding agreements. Consequently, the SDGs have been criticized for being insufficiently radical in their analysis of systemic crises, and insufficiently sophisticated in their approach towards the negative tendencies in a VUCA society. According to Gupta and Vegelin (2016), for instance, real economic transformation is still undermined in

the basic SDG-framework, because of the idea that economic growth and its trickle-down effects will be sufficient to get people out of poverty. Furthermore, the involvement of existing and influential stakeholders, such as big companies and other vested interest groups, would make it highly unlikely that the SDGs will create real change. These critics focus in particular on indicators and prioritized nexus relations that might evoke a more defensive reaction to sustainability challenges, and in the end, will not create transition at the required pace and intensity.

The SDG-framework is constructed as a three-layered dashboard: 17 goals – intended as an integrated, indivisible set – to indicate progress on the 2030 Agenda; 169 targets – about 10 targets per goal – to monitor developments towards each goal; and 232 indicators – frequently more than one per target – to keep track of advancements at the target level. However, even a three-layered dashboard approach does not capture all relevant dimensions of such complex phenomena like poverty, inequality or the resilience of cities. Neither does it imply that the choice for a particular target creates, or is the result of, sufficient clarity. Take, for instance, SDG-target 17.13 – part of the ‘partnerships for the goals’ ambition – which aims to enhance ‘global macroeconomic stability’. There is no consensus on what this objective actually entails, neither conceptually, nor in terms of appropriate metrics. Even at this sub-level, it has been agreed that SDG-target 17.13 will be measured by a dashboard of indicators to develop more insights over time. As noted by MacFeely: “the composition of this dashboard will effectively determine whether the 2030 Agenda adopts an orthodox or heterodox view of the global economy” (2019).

Indicator development around the world not only represents a complex technical effort of getting the definitions right, deciding on adequate metrics and methodologies, and specifying criteria for robust, disaggregated and comparable data collection. The process itself is also susceptible to policy influences, interest battles and different ambitions of scientists – on top of financing requirements, harmonization issues and governance matters. This is a typical VUCA challenge that cuts across all layers of the SDG-agenda. Indicator selection and sophistication are decisive elements in the steering mechanism that not only define what constitutes progress, but also determine to what extent progress will materialize. Only what is measured tends to get done. Adopting meaningful indicators hence requires some tolerance for complexity and the search for better insights, rather than the introduction of one metric for a single-sided.

All SDGs are interlinked by design. The SDG-framework was intentionally developed as an integrated, indivisible global agenda for achieving balanced progress across the economic, social and environmental dimensions of sustainable development (UN, 2015). The framework itself does not prioritize specific goals and targets over others, in the interest of preventing fragmented approaches and siloed implementation. It is difficult to identify the most relevant policy areas for targeted, cost-efficient investments upfront. How potential spillover effects will unfold across economic sectors, across societal actors, and between and across countries is hard to predict in a VUCA world. Also, choices for specific actions in the present have anticipated but also unintended consequences over time. By integrating economic, social and environmental themes into one interlinked framework, the SDGs seek to ensure that “the short-term achievement of improved human well-being does not occur at the cost of undermining well-being in the long term by damaging the underpinning social and environmental capital on which our global life support system depends” (Stafford-Smith et al., 2017). The SDGs hence present 17 areas of closely connected challenges.

The extent to which each SDG can be effectively addressed separately critically depends on how well governments, companies and other societal actors are able to understand, manage and make use of the interrelations between it and the other SDGs. Success in achieving results in one problem area is thus conditioned by actions, policies and progression in other areas. This phenomenon is also known as the ‘nexus challenge’. A nexus approach focuses on the positive synergies and potential negative trade-offs that arise when working to achieve the SDG-agenda. Four basic positions that can be adopted in intellectually challenging discourse:

1. **A political systems approach:** which looks at the actual biophysical, economic, social and political connections between the SDGs and their targets that were established in the negotiations around the SDGs;
2. **A top-down theoretical approach:** which classifies the SDGs as part of a systems approach and tries to define which clusters of SDGs are interrelated;
3. **A principles-based approach:** which considers the basic principles that are at the core of all SDGs and takes a research-oriented approach;
4. **A pragmatic approach:** that takes a bottom-up angle to create scientific insights into what linkages actually exist and reinforce each other.

POLITICAL SYSTEMS APPROACH

This approach was elaborated by Le Blanc (2015) who identified the various connections between the SDGs as the result of the political process through which the SDGs were formed. His analysis showed that some thematic areas covered by the SDGs are well connected, whereas other parts of the SDG network have weaker connections with the rest of the system. Le Blanc found that the political framework which the SDGs provide does not adequately reflect the array of actual interrelations known to exist from a scientific point of view. The range of links identified – for instance, related to biophysical, social and economic systems – is far greater than the political ones that were recognized, agreed upon and adopted in the 2030 Agenda (ICSU and ISSC, 2015). For instance, missing from the 2030 Agenda is the well-recognized link between energy use and industrialization and its subsequent effects on climate change and ecosystems. Also missing are the links between oceans and climate change, and energy and climate change (Le Blanc, 2015). Especially where missing links are known to be of a strong systemic nature, it is important to integrate recognized insights into subsequent policymaking. Considering that the interconnections between the SDGs are complex and manifold, however, the political framework cannot possibly accommodate all relevant interconnections (ibid). This approach hence provides limited guidance in how to address these interconnections.

TOP-DOWN (DEDUCTIVE) THEORETICAL APPROACH

A second approach – which can be described as a ‘top-down scientific approach’ – has developed that tries to fill this hole. It uses systems theory to predefine expected interactions, define levels of analysis, and link these to systems outcomes – like climate change and economic growth at a global scale. An example of this approach is the one embraced by the Stockholm Resilience Centre (SRC) in 2016. They developed a hierarchy of SDGs, in which the biosphere presents the general context in which all other goals should be positioned (Figure 2.3). Economies and societies are seen as embedded parts of the biosphere. The centre defines the planetary boundaries as the ultimate context within which humanity can continue to develop for generations to come while ‘societies’ represent human-made institutional conditions, and ‘economy’ more or less how change can be organized efficiently. ‘Partnerships for the goals’ (SDG17) are portrayed as the linchpin between all levels of interaction. The SRC argues that food as a resource, and the way we produce and organize society around it, actually connects all the SDGs. This approach shows a strong resemblance to Kate Raworth’s ‘doughnut economics’ (2017).

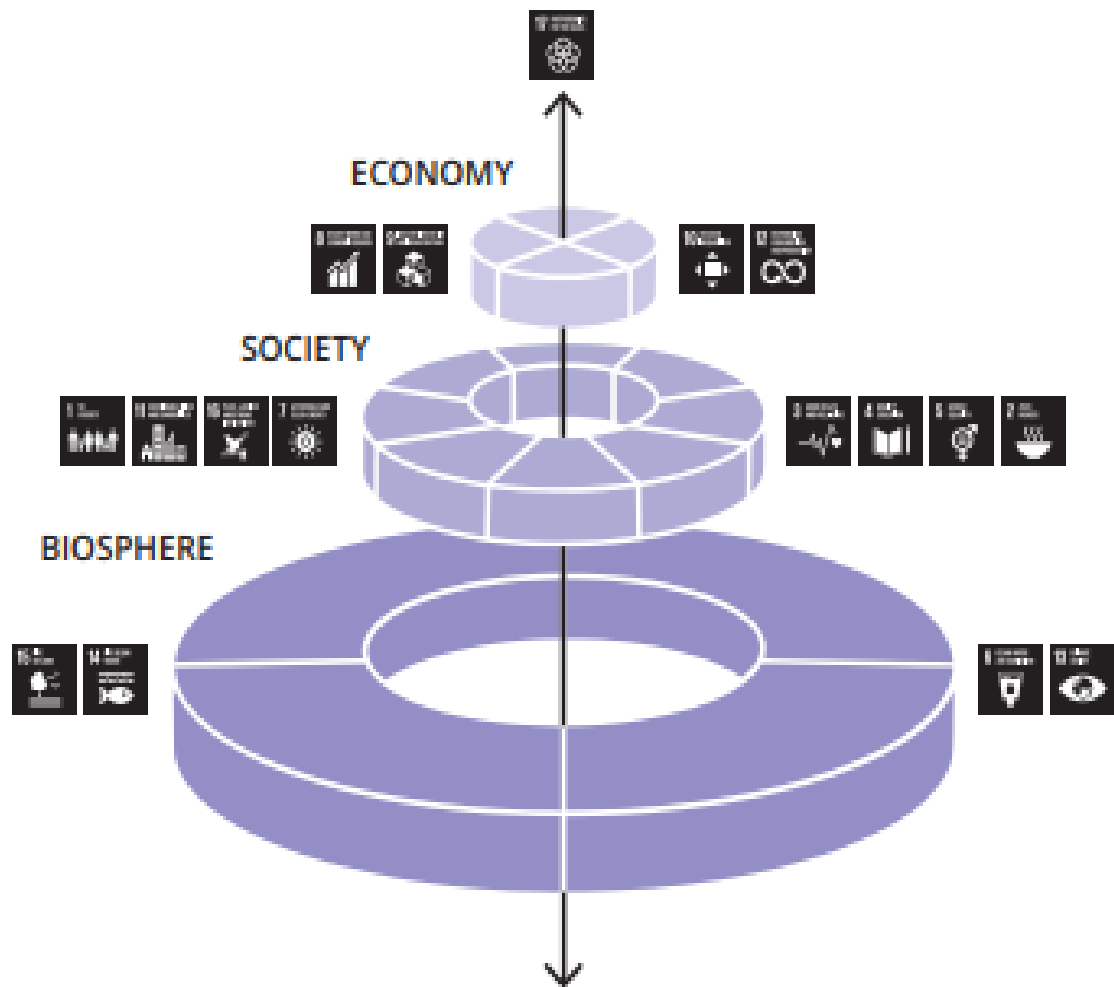


Figure 2.2 Systemic Hierarchy of SDGs according to The Stockholm Resilience Centre
 Source: Rob van Tudler and Evelin van Mil (2022)

PRINCIPLES-BASED APPROACH

A principles-based approach was adopted at the launch of the SDGs. It resembles a synthesis of principles that had been discussed in the global arena: from universal human rights principles and the OECD guidelines on multinational enterprises, to principles as defined by the UN Global Compact. The Triple-P (People, Planet, Profit) concept, widely used in the business sector, was embraced albeit with a distinctive adjustment: ‘profit’ – as a guiding principle for business was replaced by ‘Prosperity’, which is more strongly and explicitly related to global common-pool ambitions. Governments and civil society representatives introduced an additional element: the principles of ‘justice’ and ‘dignity’. In the final version of the SDGs, these were summarized as ‘Peace’. All actors supported the introduction of a vital fifth element: ‘Partnering’. The resulting framework defines the 5 Ps as the foundation for all 17 SDGs. All five principles are of equal weight and apply basic ethical frames like consequences, duties, rights, virtues and capabilities. ‘Partnering’ can be interpreted as a means for achieving the other four principles (Figure 2.4). It can, therefore, be considered of a slightly different order than the four other principles, stressing participatory and discourse based ethical principles.

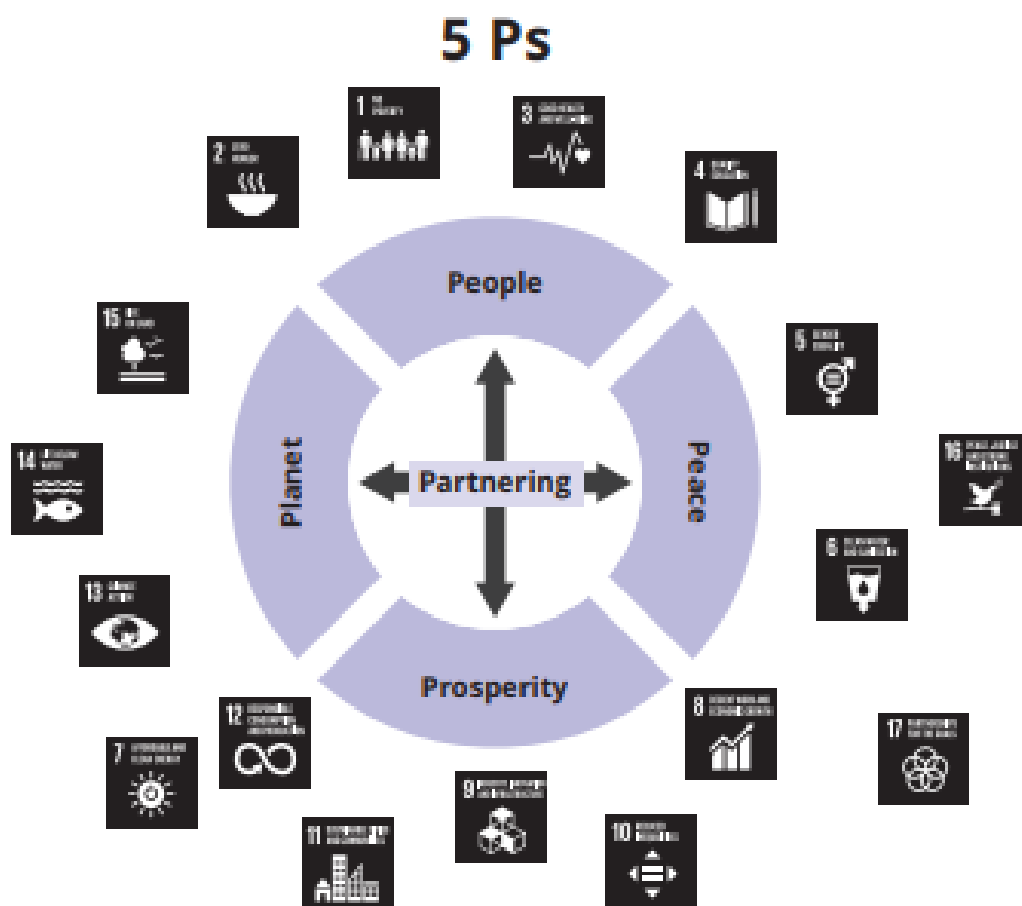


Figure 2.3 Five basic Principles of all SDGs
Source: Rob van Tudler and Evelin van Mil (2022)

Somewhat confusing is that SDG17 also refers to ‘Partnerships for the Goals’. Many practitioners mistakenly refer to SDG17 when they intend to stress the importance of collaboration and partnering in general. SDG17, however, is primarily aimed at cross-country government collaboration in pursuit of all the goals SDG17 aims to strengthen and streamline cooperation between nation states, both developed and developing, using the SDGs as a shared framework and vision. SDG17-targets consequently relate to policy areas like finance (through development assistance), trade, technological cooperation, capacity building for policies (in particular in the global South) and the creation of policy coherence. As a principle, the fifth P in the 5 Ps framework applies to all SDGs. It recognizes that each of the SDGs can only be achieved on the basis of effective multi-stakeholder and multi-sector collaboration between governments, companies and civil society organizations. Hence, the partnering principle can never be implemented in isolation merely by embracing SDG17.

PRAGMATIC/BOTTOM-UP (INDUCTIVE) APPROACH

Each of the former three approaches has advantages and disadvantages, but as systemic analysis in research and policy analysis on SDG interactions had been lacking, progress was slow. Hence, a more pragmatic bottom-up scientific approach materialized to guide actions towards achieving the SDGs and support a better understanding of the nature, dynamics and range of positive and negative interactions between the goals. The approach aims for a science-informed analysis of interactions across SDG domains that “can support more coherent and effective decision making, and better facilitate follow-up and monitoring of progress” (ICSU, 2017). Nilsson, Griggs and Visbeck (2016) proposed a sevenpoint scale to rate interactions, as a conceptual framework to help identify priorities for policymaking. Three general

types of interactions between SDG-targets can be discerned: positive (virtuous), neutral and negative (vicious) dynamics. Positive interactions among SDGs occur when SDGs are enabling, when they are reinforcing or when they are indivisible. Neutral, or consistent, interactions describe a situation in which contributions towards one goal do not yield significant positive or negative interactions with another goal. Negative interactions arise when goals are constraining, counteracting or cancelling (Nilsson et al., 2016). Systematic assessment of the nature, direction and dynamics of the many interactions among the SDGs should improve understanding of the possibilities to leverage interventions for positive impact and to identify concrete focal points. In 2018, a team of specialists further extended and tested their interactions framework, and stressed the importance of particular contextual factors, such as (a) geographical context, (b) resource endowments, (c) time horizon and (d) governance (Nilsson et al., 2016).

Summary

The SDGs aim to advance various important themes of sustainable development simultaneously, with universal coverage, involving all societal stakeholders and through an inclusive approach. The SDG framework was deliberately developed as an integrated and inseparable global agenda to achieve balanced progress in all economic, social and environmental dimensions of sustainable development (UN, 2015). By integrating economic, social and environmental themes into one interrelated framework, the SDGs seek to ensure that “short-term achievements in the form of improving human well-being do not occur at the expense of long-term well-being by undermining its underlying foundations. the social and environmental capital on which our global life support system depends.” Therefore, the SDGs present 17 closely related challenge areas.

The extent to which each SDG can be effectively addressed separately depends largely on how well governments, companies and other societal actors are able to understand, manage and exploit the linkages between it and other SDGs. One can adopt four basic positions in this intellectually challenging discourse: political system approach, top-down theoretical approach, principles-based approach, pragmatic approach.

Discussion questions

1. Why are SDGs considered more perfect than MDGs?
2. What kind of sustainable economic development would be most optimally implemented in your country?
3. What must be integrated in the implementation of sustainable development?
4. Who is calling for sustainable development goals and why?
5. What is the role of society in sustainable regional development?

Suggested reading

- ICSU (2017). A Guide to SDG Interactions: From Science to Implementation. Paris: International Council for Science.
- Le Blanc, D. (2015). Towards integration at last? The Sustainable Development Goals as a network of targets. DESA Working Paper No. 141, United Nations Department of Economic and Social Affairs, ST/ESA/2015/DWP/141, March.
- Lomborg, B. (Ed.) (2018). Prioritizing Development: A Cost Benefit Analysis of the United Nations' Sustainable Development Goals. Cambridge University Press.

- Moore, H.L. (2015). 'Global Prosperity and Sustainable Development Goals', *Journal of International Development*, 27(6):801–815.
- MaVeely, Steve (2020). Measuring the Sustainable Development Goals Indicators: An Unprecedented Statistical Challenge. *Journal of Official Statistics*, 36(2), 361-378. <https://sciendo.com/article/10.2478/jos-2020-0019>
- Nilsson, M., Griggs, D. & Visbeck, M. (2016). 'Map the interactions between Sustainable Development Goals', *Nature*, 534(7607):320–322.
- Stafford-Smith, M., Griggs, D., Gaffney, O., Ullah, F., Reyers, B., Kanie, N., Stigson, B., Shrivastava, P., Leach, M. & O'Connell, D. (2017). 'Integration: the key to implementing the Sustainable Development Goals', *Sustainability Science*, 12(6):911–919.
- Rob van Tulder and Eveline van Mi (2022). *Principles of Sustainable Business: Frameworks for Corporate Action on the SDGs (The Principles for Responsible Management Education Series)*, Routledge.

CHAPTER 3: REGULATIONS RELATED TO CSR (NATIONAL AND REGIONAL CONTEXT)

This module aims to provide a comprehensive understanding of CSR regulations, emphasizing their application in both the national and regional contexts, with Indonesia serving as a case study. Corporate Social Responsibility has evolved into a critical aspect of contemporary business operations, impacting not only the ethical and social dimensions but also legal compliance and sustainable development. As companies increasingly integrate CSR into their strategies, understanding the regulatory framework becomes essential for responsible corporate practices.

3.1 National context

1. National legal framework in Indonesia

Indonesia has established a legal framework for CSR through various regulations. The primary legal document that governs CSR in Indonesia is Law No. 40 of 2007 on limited liability companies. Under this law, companies are required to allocate a portion of their annual net profit for CSR activities. The specific allocation is determined by the company's annual financial performance.

- Legal framework:

Corporate Social Responsibility (CSR) in Indonesia is regulated under several key legislations that outline the obligations of companies towards social and environmental sustainability. The legal framework for CSR emphasizes that such activities are not merely voluntary contributions by businesses but are mandated by law, particularly for companies operating in specific sectors. Here's a detailed explanation of the primary regulations related to CSR in Indonesia:

2. Law No. 40 of 2007 on Limited Liability Companies (Company Law)

The Company Law was a significant step in formalizing CSR in Indonesia. Article 74 of this law mandates that companies operating in the natural resources sector must implement CSR programs. This provision marks CSR as a legal obligation rather than a voluntary act for companies in certain industries. It specifies that companies are required to allocate funds for CSR activities, which should align with their business operations and contribute to sustainable development.

3. Government Regulation No. 47 of 2012 on Social and Environmental Responsibility of Limited Liability Companies

To provide further clarity and guidance on the implementation of Article 74 of the Company Law, Government Regulation No. 47 of 2012 was enacted. This regulation details the mechanisms, procedures, and reporting of CSR activities. It emphasizes that CSR expenses are recognized as part of the company's operational costs and outlines the responsibilities of companies to plan, execute, and report their CSR activities, ensuring transparency and accountability in their CSR initiatives.

4. Law No. 25 of 2007 on Capital Investment

The Capital Investment Law underscores the importance of sustainable development and environmental protection in investment activities. While not exclusively a CSR regulation, this law encourages investors, both foreign and domestic, to engage in sustainable practices and contribute to social and environmental development as part of their investment operations. This includes adherence to CSR principles, further integrating CSR into the broader context of business and investment in Indonesia.

5. Sector-Specific Regulations

In addition to the general regulations, Indonesia has sector-specific CSR guidelines, particularly for industries with significant environmental and social impacts, such as mining, forestry, and energy. For example, the mining sector is regulated under Law No. 4 of 2009 on Mineral and Coal Mining, which

requires companies to develop and implement community development and empowerment programs as part of their CSR obligations. These sector-specific regulations ensure that companies in high-impact sectors contribute positively to the communities and environments in which they operate.

- **Applicability:**

These regulations apply to all companies in Indonesia, including limited liability companies (pt), state-owned enterprises, and foreign companies with representative offices or branches in Indonesia.

- **Mandatory CSR obligations:**

Under the CSR regulation, companies are required to allocate a portion of their annual net profit to CSR activities. The specific percentage varies based on the company's revenue and profit. The minimum CSR allocation is 2% of the net profit for companies with a net profit of over idr 50 billion (approximately \$3.5 million usd).

- **CSR activities:**

Companies can undertake a wide range of CSR activities, including but not limited to environmental preservation, education, health, poverty alleviation, and community development. The CSR regulation encourages companies to prioritize activities that align with Indonesia's development priorities and sustainable development goals.

- **Reporting and documentation:**

Companies are required to prepare an annual CSR plan and report, detailing their planned CSR activities and the results achieved during the reporting period. These reports must be submitted to the ministry of state-owned enterprises (for state-owned companies) or the relevant provincial or district government agencies (for private companies).

- **Sanctions and non-compliance:**

Companies failing to comply with the CSR obligations may face sanctions, including administrative penalties and potential legal consequences. Non-compliance may result in restrictions on business activities, revocation of business licenses, or other punitive measures.

- **Tax benefits:**

Companies that meet certain criteria for CSR spending may be eligible for tax incentives and benefits under Indonesia's tax regulations.

- **Local community engagement:**

Engaging with local communities and stakeholders is essential in the implementation of CSR activities. Collaboration and consultation with local communities are encouraged to ensure that CSR programs address local needs and concerns effectively.

6. Reporting requirements:

Companies are obliged to report their CSR activities in their annual reports. These reports must include details about the nature of CSR projects, the amount allocated, and the outcomes achieved. Transparency and accountability are essential aspects of CSR reporting in Indonesia.

7. Government oversight:

The ministry of state-owned enterprises (soes) and the ministry of environment and forestry are responsible for overseeing CSR activities of state-owned and private companies in Indonesia. These ministries ensure that companies comply with the CSR regulations and promote sustainable and responsible business practices.

8. Tax incentives:

To incentivize companies to engage in CSR, Indonesia offers tax incentives to those that meet certain criteria. Companies that fulfill their CSR obligations are eligible for tax deductions or reductions. This provides an additional incentive for companies to invest in CSR initiatives.

3.2 Regional context

1. Variations and implications

- **Regional autonomy:**

Indonesia has a decentralized system of governance, with substantial autonomy granted to regions (provinces and districts). This autonomy extends to CSR regulations, allowing regions to develop their own guidelines and priorities for CSR activities. Consequently, regional variations in CSR practices exist.

- **Varied regional needs:**

Different regions in Indonesia have diverse social, economic, and environmental needs. For example, a region heavily reliant on agriculture may prioritize CSR projects related to sustainable farming practices, while an urban area may focus on education and infrastructure development. Companies operating in multiple regions must adapt their CSR strategies to align with these varying needs.

- **Collaboration with local communities:**

Companies operating in Indonesia often engage in collaborative CSR initiatives with local communities. These initiatives aim to address specific regional challenges and involve active participation from local stakeholders. Building strong relationships with local communities is crucial for the success of regional CSR projects.

- **Reporting and compliance challenges:**

Companies with operations in multiple regions face the challenge of complying with various regional CSR regulations. They must navigate different reporting requirements and adapt to the regulatory environment in each region. This complexity can pose administrative and logistical challenges.

- **Best practices and knowledge sharing:**

Despite regional variations, companies operating in Indonesia can leverage best practices and lessons learned from successful CSR projects across regions. Knowledge sharing and collaboration with other businesses can help streamline CSR efforts and promote positive outcomes.

The implementation of Corporate Social Responsibility (CSR) regulations in Indonesia can be observed across various industries and companies, showcasing how businesses integrate social and environmental considerations into their operations. Here are some examples illustrating how regulations on CSR are put into practice:

2. Environmental Conservation Projects

Mining and Energy Sector: Companies like PT Adaro Indonesia has developed comprehensive environmental management and conservation programs. These include reforestation initiatives, water management, and biodiversity conservation efforts in their operational areas, in compliance with regulations requiring them to manage and mitigate environmental impacts.

3. Community Development Programs

Telecommunication Companies: Firms such as PT Telekomunikasi Indonesia (Telkom) have launched various community development programs, including digital literacy training and the provision of internet access to remote areas. These initiatives are part of their CSR efforts to improve education and digital access, reflecting the broader goals of social welfare enhancement.

4. Health and Sanitation Improvements

Consumer Goods Companies: Corporations like Unilever Indonesia have implemented health and sanitation projects, including campaigns on handwashing with soap in schools and communities. These programs aim to improve public health outcomes, demonstrating how companies can contribute to health and well-being through their CSR activities.

5. Disaster Relief and Emergency Response

In response to natural disasters, many companies have set up emergency response mechanisms and contributed to relief efforts, providing aid in the form of funds, goods, and services to affected communities. This form of CSR is particularly relevant in Indonesia, given its susceptibility to natural disasters such as earthquakes and tsunamis.

6. Education and Scholarship Programs

Extractive Industries: Companies operating in the oil, gas, and mining sectors, such as PT Pertamina and PT Antam, have established education and scholarship programs aimed at supporting local talent and providing educational opportunities for communities living in their operational areas. This aligns with CSR regulations that encourage contributions to educational development.

7. Infrastructure Development

Construction and Manufacturing Sectors: Firms in these sectors often engage in infrastructure development projects, such as building roads, bridges, and public facilities, to support local communities. These projects are part of their CSR obligations and contribute significantly to improving the quality of life and economic opportunities in those areas.

In summary, CSR regulations in Indonesia encompass a national legal framework, reporting requirements, government oversight, and tax incentives. However, regional variations driven by Indonesia's decentralized governance system result in diverse CSR priorities and challenges across different regions. Companies operating in Indonesia must navigate these variations to effectively implement CSR initiatives that align with both national and regional contexts. It's essential for them to engage with local communities and adapt their CSR strategies to address specific regional needs while adhering to national regulations.

3.3 Introduction to CSR and legal frameworks

1. CSR and its significance in the business world.

Corporate social responsibility (CSR) refers to the voluntary commitment and ethical responsibility of businesses to contribute to society and the environment beyond their core profit-making activities. CSR involves integrating social, environmental, and ethical concerns into a company's operations and business model. It goes beyond compliance with laws and regulations, emphasizing a proactive approach to creating positive impacts on various stakeholders and the world at large.

Here's a detailed explanation of CSR and its significance in the business world:

Corporate social responsibility (CSR):

CSR encompasses a wide range of activities and initiatives that businesses can undertake to fulfill their social and environmental responsibilities. These activities can include:

- 1. Environmental sustainability:** implementing eco-friendly practices, reducing carbon emissions, conserving resources, and adopting sustainable supply chain management.
- 2. Social initiatives:** supporting community development, education, healthcare, poverty alleviation, and disaster relief through philanthropic efforts.
- 3. Ethical business practices:** ensuring fair labor practices, promoting diversity and inclusion, and adhering to ethical codes of conduct.
- 4. Transparency and accountability:** reporting on CSR efforts, engaging with stakeholders, and being transparent about business practices.
- 5. Stakeholder engagement:** engaging with various stakeholders, including employees, customers, investors, suppliers, and local communities, to understand their concerns and needs.
- 6. Philanthropy and charitable giving:** donating a portion of profits or resources to charitable organizations and causes.

Significance of CSR in the business world:

1. **Enhanced reputation and brand value:** CSR initiatives contribute to a company's positive image and reputation. This can lead to increased customer loyalty and trust, benefiting the brand's value.
2. **Competitive advantage:** companies that actively engage in CSR can gain a competitive edge in the market. CSR practices can attract socially conscious consumers and differentiate a company from its competitors.
3. **Stakeholder trust and loyalty:** CSR builds trust with stakeholders, including employees, customers, investors, and local communities. Engaged and satisfied stakeholders are more likely to support the company.
4. **Risk mitigation:** CSR can help companies identify and mitigate potential risks, including legal, environmental, and reputational risks. Proactive CSR efforts can prevent crises and negative publicity.
5. **Cost savings:** implementing sustainability and efficiency measures can lead to cost savings. For example, energy-efficient practices reduce energy costs, while employee well-being programs can decrease turnover and recruitment expenses.
6. **Talent attraction and retention:** companies that prioritize CSR are often more attractive to prospective employees, particularly among younger generations who seek meaningful work and socially responsible employers.
7. **Access to capital:** investors and financial institutions increasingly consider a company's CSR performance when making investment decisions. Strong CSR practices may lead to lower borrowing costs and improved access to capital.
8. **Long-term sustainability:** CSR fosters sustainable business practices, ensuring that companies consider their impact on future generations and contribute to a more resilient global economy.
9. **Compliance with changing regulations:** CSR practices can help companies stay ahead of evolving social and environmental regulations, ensuring they are in compliance with current and future legal requirements.
10. **Positive impact on society and the environment:** ultimately, CSR contributes to the betterment of society and the environment. It allows businesses to be part of solutions to global challenges such as poverty, inequality, climate change, and resource depletion.

In conclusion, CSR is significant in the business world because it benefits not only the company but also society and the planet. It aligns business interests with social and environmental responsibilities, creating a win-win situation that supports sustainable development and positive societal impact.

2. Understand the role of legal frameworks in governing CSR practices.

The role of legal frameworks in governing corporate social responsibility (CSR) practices is essential in establishing the rules, obligations, and expectations for businesses when it comes to their social, environmental, and ethical responsibilities. Legal frameworks play several key roles in shaping CSR practices within a country or jurisdiction:

Establishing mandatory CSR requirements:

Legal frameworks can make CSR mandatory for certain businesses or industries. This means that companies are legally obligated to engage in CSR activities and report on their efforts. These requirements can include specific CSR expenditure targets, reporting guidelines, and consequences for non-compliance.

Defining CSR reporting and disclosure standards:

Legal frameworks often stipulate the format, content, and frequency of CSR reporting. They may require companies to disclose information about their CSR initiatives, such as environmental impact assessments, labor practices, and community engagement efforts. These standards ensure transparency and accountability.

Setting environmental and social standards:

Legal frameworks may establish environmental and social standards that companies must adhere to in their operations. For instance, laws may regulate emissions limits, workplace safety, fair labor practices, and human rights protections. Companies are required to meet these standards as part of their CSR responsibilities.

Enforcing ethical and compliance standards:

Legal frameworks can include provisions related to business ethics and integrity. They may specify anti-corruption measures, conflict of interest rules, and penalties for unethical conduct. Ensuring ethical behavior is an integral part of CSR.

Promoting accountability and enforcement:

Legal frameworks provide mechanisms for enforcing CSR regulations and holding companies accountable for non-compliance. Regulatory authorities and government agencies are responsible for monitoring and enforcing CSR laws, imposing penalties, and conducting investigations when necessary.

Encouraging responsible business behavior:

CSR legal frameworks create incentives for businesses to adopt responsible behavior. Companies may receive tax incentives, preferential treatment in government contracts, or other benefits for complying with CSR requirements, which encourages voluntary adherence to CSR principles.

Protecting stakeholder interests:

Legal frameworks serve to protect the interests of various stakeholders, including consumers, employees, communities, and the environment. By regulating CSR practices, these frameworks help ensure that companies do not harm these stakeholders through their activities.

Addressing global and local concerns:

Legal frameworks can reflect both global and local concerns. They may align with international CSR standards and conventions while also addressing region-specific issues and priorities. This flexibility allows governments to adapt CSR regulations to their unique contexts.

Creating a level playing field:

Legal frameworks promote fairness and competitiveness by creating a level playing field for businesses. When all companies are subject to the same CSR requirements, it prevents unfair advantages for those that may be less committed to CSR practices.

Responding to evolving issues:

Legal frameworks can evolve to address emerging CSR challenges, such as climate change, supply chain transparency, and digital ethics. Governments can update regulations to ensure that businesses adapt to changing societal and environmental demands.

In summary, legal frameworks play a crucial role in governing CSR practices by establishing rules, standards, and incentives that guide and regulate business behavior. They serve to protect stakeholders, promote responsible business conduct, and create a framework for accountability and transparency in CSR activities. Companies are expected to operate within the boundaries set by these legal frameworks while also voluntarily embracing ethical and sustainable practices.

3. Differentiate between voluntary and mandatory CSR regulations.

Differentiating between voluntary and mandatory CSR regulations is essential in understanding how countries and jurisdictions approach corporate social responsibility (CSR) practices. These two approaches have distinct characteristics and implications for businesses. Here's a breakdown of the key differences between voluntary and mandatory CSR regulations:

Voluntary CSR regulations:**1. Nature:**

Voluntary CSR regulations are guidelines, principles, or initiatives that companies can choose to adopt on their own accord. These are not legally binding requirements; instead, they represent best practices and ethical standards.

2. **Compliance:**

Compliance with voluntary CSR regulations is optional. Companies decide whether or not to engage in CSR activities and to what extent. Businesses can tailor their CSR efforts to align with their values, priorities, and business strategies.

3. **Flexibility:**

Voluntary CSR allows companies flexibility in determining which CSR initiatives to pursue, based on their specific goals and resources. It enables companies to respond to changing societal and environmental concerns at their own pace.

4. **Motivation:**

Companies often adopt voluntary CSR practices for various reasons, including enhancing reputation, attracting socially conscious consumers, and fostering positive stakeholder relations. Market competition and consumer demand may encourage businesses to embrace voluntary CSR to stay competitive.

5. **Reporting and transparency:**

While transparency is encouraged in voluntary CSR, the level of disclosure is at the discretion of the company. Reporting mechanisms vary widely, and there may not be standardized reporting requirements.

Mandatory CSR regulations:

1. **Nature:**

Mandatory CSR regulations are legal requirements imposed by governments or regulatory authorities. Companies are legally obligated to engage in CSR activities and comply with specific CSR-related laws and regulations.

2. **Compliance:**

Compliance with mandatory CSR regulations is obligatory. Companies must adhere to the prescribed CSR standards and guidelines. Non-compliance can lead to legal consequences, penalties, and sanctions.

3. **Rigidity:**

Mandatory CSR regulations often come with specific requirements, such as designated expenditure percentages, reporting formats, and compliance deadlines. There is less flexibility for companies to deviate from these prescribed regulations.

4. **Motivation:**

Companies comply with mandatory CSR regulations primarily to adhere to legal obligations and avoid legal liabilities. The government may use these regulations to address specific social, environmental, or ethical issues and ensure businesses contribute to societal welfare.

5. **Reporting and transparency:**

Mandatory CSR regulations typically require companies to report specific CSR-related information using standardized formats. There is greater transparency and accountability as companies must provide detailed disclosures.

Summary

The main differentiation between voluntary and mandatory CSR regulations lies in their nature, compliance requirements, flexibility, motivation, and reporting obligations. Voluntary CSR practices are driven by a company's choice to engage in socially responsible activities, while mandatory CSR regulations are legally enforced, with specific requirements that companies must follow. Understanding these distinctions is crucial for businesses operating in different regions to navigate their CSR responsibilities and regulatory environments effectively.

Discussion Questions

1. Mandatory vs. Voluntary CSR Regulations:

- What are the key differences between mandatory and voluntary CSR regulations, and how do these differences impact corporate behavior and practices?
- Can voluntary CSR initiatives effectively drive corporate responsibility, or do mandatory regulations provide more substantial incentives for businesses to engage in CSR activities?

2. Case Studies in National CSR Regulations:

- Choose a specific country with noteworthy CSR regulations and regulations. Analyze and discuss the regulatory framework, its objectives, and its impact on businesses and society.
- How do the cultural, social, and economic contexts of a country influence the design and implementation of its CSR regulations?

3. The Role of Government in CSR Regulation:

- What is the government's role in overseeing and enforcing CSR regulations? How can governments effectively balance regulatory requirements with the promotion of voluntary CSR initiatives?
- Discuss the challenges governments face in ensuring compliance with CSR regulations, and explore strategies to enhance regulatory effectiveness.

4. Comparative Analysis of Regional CSR Initiatives:

- Compare and contrast regional CSR initiatives or agreements in different parts of the world. What are the common goals, challenges, and benefits of such regional approaches?
- How do regional CSR initiatives interact with and complement national CSR regulations? Can they help standardize CSR practices across borders?

5. CSR Reporting and Transparency:

- Explore the importance of CSR reporting in ensuring transparency and accountability. Discuss the elements of effective CSR reporting and the role of standardized reporting frameworks (e.g., GRI, SASB).
- How can CSR reporting be improved to provide stakeholders with more meaningful information about a company's CSR efforts and impact?

6. The Impact of CSR Regulations on Business Behavior:

- Analyze the impact of CSR regulations on businesses' behavior, practices, and strategies. How do these regulations influence corporate decision-making and investments in CSR activities?
- To what extent do CSR regulations drive innovation and sustainable business practices?

7. Corporate Accountability and Non-Compliance:

- Discuss the mechanisms for holding companies accountable for non-compliance with CSR regulations. What are the potential consequences and penalties for non-compliance?
- How can stakeholders, including civil society organizations, play a role in ensuring corporate accountability in the context of CSR regulations?

8. CSR Regulation in Emerging Markets:

- Investigate the unique challenges and opportunities of implementing CSR regulations in emerging markets. How can governments encourage responsible business practices in these regions?
- What role can multinational corporations play in promoting CSR in emerging markets, and how can they navigate the regulatory landscape effectively?

9. The Future of CSR Regulation:

- How might evolving societal, environmental, and economic factors shape the development of CSR regulations at the national and regional levels?
- What are the potential challenges and opportunities for businesses and governments in responding to these emerging CSR regulatory trends?

Suggested reading

- Aggarwal, R., & Arora, A. (2013). Corporate social responsibility in developing countries: A study of corporate disclosure practices in Indian firms. *Corporate Social Responsibility and Environmental Management*, 20(5), 269-288.
- Bichta, C. (2003). Corporate social responsibility: a role in government policy and regulation?.
- Carroll, A. B., & Shabana, K. M. (2010). The business case for corporate social responsibility: A review of concepts, research and practice. *International Journal of Management Reviews*, 12(1), 85-105.
- Gal, G., Akisik, O., & Wooldridge, W. (Eds.). (2018). *Sustainability and social responsibility: regulation and reporting*. Springer Singapore.
- Ho, S. S. M., & Li, A. Y. (2019). Corporate social responsibility in a globalizing world: Corporate, government, and civil society interactions. *International Journal of Management Reviews*, 21(2), 196-225.
- Jenkins, R. (2017). Corporate social responsibility in the extractive industries: Experiences from developing countries. *Resources Policy*, 51, 151-162.
- Jentsch, V. (2018). Corporate social responsibility and the law: international standards, regulatory theory and the Swiss responsible business initiative.
- Utting, P., & Marques, J. (Eds.). (2009). *Corporate social responsibility and regulatory governance: Towards inclusive development?*. Springer.
- Utting, P., & Zammit, A. (2016). Business, social and human rights: The critical view from Latin America. *Journal of Business Ethics*, 133(1), 111-127.
- Visser, W., Matten, D., Pohl, M., & Tolhurst, N. (2010). *The A to Z of corporate social responsibility*. John Wiley & Sons.

CHAPTER 4: THE CONCEPT OF SOCIAL RESPONSIBILITY AND ISO 26000

This chapter explores the principles and practices of social responsibility as defined by ISO 26000, the international standard for social responsibility. It aims to provide students with a deep understanding of how organizations can operate in a socially responsible way and the impact of these practices on stakeholders and society at large.

4.1 Introduction to Social Responsibility

1. Definition of Social Responsibility

Social responsibility refers to the idea that individuals and organizations have an obligation to act for the benefit of society at large. This concept extends beyond legal compliance and profit-making, encompassing a broader spectrum of ethical and social obligations. Social responsibility can apply to individuals, corporations (often referred to as Corporate Social Responsibility, or CSR), nonprofits, and governmental agencies. In the context of businesses, social responsibility often means that companies integrate social and environmental concerns into their business operations and their interactions with stakeholders. This includes considering the impact of their activities on customers, employees, communities, and the environment.

2. History of Social Responsibility

The history of social responsibility is intertwined with the evolution of societal values and business practices over the centuries. Here are some key milestones:

Early Stages

- **Pre-20th Century:** Early forms of social responsibility can be traced back to philanthropic efforts by business owners during the Industrial Revolution. Many business tycoons, such as Andrew Carnegie and John D. Rockefeller, engaged in philanthropy, although this was often seen as separate from their business practices.

Mid-20th Century Developments

- **1950s–1960s:** The concept of CSR began to take shape. Howard Bowen's 1953 book "Social Responsibilities of the Businessman" is often cited as the foundational work in defining corporate social responsibility. During this time, the idea that businesses should consider the impact of their actions on society became more prominent.

- **1970s:** The concept of CSR was further developed and expanded. There was a growing expectation for businesses to address social issues. This era also saw the introduction of environmental concerns into the CSR agenda, partly driven by increased public awareness of environmental issues.

Late 20th Century to Early 21st Century

- **1980s–1990s:** The notion of sustainability emerged, adding environmental stewardship to the traditional social responsibility framework. The Brundtland Commission's 1987 report "Our Common Future" introduced the concept of sustainable development, influencing CSR practices.

- **2000s:** Globalization and the rise of the internet increased transparency and public awareness of corporate practices, placing more pressure on companies to be socially responsible. This period saw the development of various CSR standards and reporting frameworks, such as the Global Reporting Initiative (GRI) and the United Nations Global Compact.

Recent Developments

- **2010s–Present:** The focus has shifted towards integrated sustainability, stakeholder engagement, and the creation of shared value. The introduction of international standards like ISO 26000

in 2010 provided a guideline for social responsibility. The Sustainable Development Goals (SDGs), established in 2015, further highlighted the role of businesses in achieving broader societal goals.

The evolution of social responsibility reflects changing societal expectations and a growing recognition of the interconnectedness of business, society, and the environment. Today, social responsibility is a core aspect of how many organizations conduct their business, driven by both ethical considerations and a recognition of the long-term benefits of sustainable and responsible practices

3. The business case for social responsibility

The business case for social responsibility encompasses various arguments and evidence that demonstrate how engaging in socially responsible practices can be beneficial for businesses. This case is built on the understanding that the long-term success of a company is closely linked to the health and welfare of the communities and environment in which it operates. Below are key aspects of the business case for social responsibility:

Enhanced Reputation and Brand Value

- **Consumer Preference:** Consumers increasingly prefer to buy from companies that demonstrate ethical practices and social responsibility. This trend can translate into higher sales and customer loyalty.
- **Brand Differentiation:** Social responsibility initiatives can help differentiate a brand in a crowded market, appealing to consumers who value ethical practices.

Increased Employee Engagement and Attraction

- **Attracting Talent:** Companies known for their social responsibility are often more attractive to potential employees, especially among younger generations who prioritize purpose and values in their work.
- **Employee Retention and Morale:** Employees tend to be more engaged and have higher morale when they feel their work is contributing to positive social or environmental outcomes.

Risk Management

- **Reputation Risk:** Socially responsible practices can mitigate the risk of negative publicity and reputational damage that can arise from unethical business practices.
- **Legal and Compliance Risks:** Proactively engaging in socially responsible practices can help prevent legal issues related to environmental regulations, labor laws, and other areas.

Operational Efficiencies and Cost Savings

- **Resource Efficiency:** Implementing environmentally sustainable practices often leads to more efficient use of resources, which can reduce costs.
- **Innovation:** The focus on social responsibility can drive innovation, leading to new products, services, or processes that are both profitable and beneficial to society.

Access to Capital and Investor Preference

- **Investor Attraction:** There is a growing trend of investors seeking out companies with strong environmental, social, and governance (ESG) records, as these are often seen as indicators of long-term viability and reduced risk.
- **Better Financing Conditions:** Companies with strong CSR credentials may find more favorable terms in financing, as some financial institutions now offer lower rates for sustainable investments.

Building Customer Trust and Loyalty

- **Long-term Relationships:** Companies that are seen as socially responsible often build stronger, more trusting relationships with their customers, leading to long-term loyalty.
- **Positive Word of Mouth:** Customers who appreciate a company's CSR efforts are more likely to promote the company through word of mouth, which is a powerful marketing tool.

Contributing to Long-term Sustainability of the Business

- **Market Stability:** By contributing to the welfare of the communities and environment, companies help ensure a stable market and society in which to operate.
- **Adaptation to Social Expectations:** Companies that are responsive to changing social norms and expectations are better positioned to adapt and thrive in an evolving business landscape.

Conclusion

The business case for social responsibility is not just about doing good; it's also about doing well. By integrating social, environmental, and ethical considerations into their business models, companies can achieve long-term sustainability, competitiveness, and profitability. This approach aligns the interests of businesses with those of society, promoting a more sustainable and equitable global economy.

4. Social responsibility (SR) vs. corporate social responsibility (CSR).

Table 4. 1 The comparison between SR and CSR

Component	Social responsibility (SR)	Corporate social responsibility (CSR)
Definition	Social responsibility, often referred to as "individual" or "personal" responsibility, pertains to the ethical and moral obligations that individuals have towards society and the broader community. It is the recognition that individuals, as members of society, have a duty to act in ways that promote the well-being of others and the environment.	Corporate Social Responsibility (CSR) is a business concept that refers to a company's commitment to balancing its economic goals with its responsibility to society and the environment. It involves a company's efforts to integrate ethical, social, and environmental considerations into its operations and decision-making processes.
Scope	Social responsibility encompasses a wide range of actions and behaviors that individuals can undertake to contribute positively to society. This may include acts of kindness, volunteering, charitable donations, ethical consumer choices, and efforts to minimize personal environmental impact.	CSR covers a wide range of activities and initiatives undertaken by businesses to address social and environmental issues. These initiatives can include philanthropy, sustainability efforts, ethical labor practices, community engagement, and more.
Voluntary	Social responsibility is generally voluntary and driven by personal values, ethics, and a sense of civic duty. Individuals choose how they want to engage with social responsibility, and it is not typically mandated by law.	While CSR is often voluntary, it can also be influenced by regulations and legal requirements in some countries. Governments may require companies to disclose their CSR efforts, and certain industries may have specific CSR guidelines.
Impact	The impact of individual social responsibility can be significant on a smaller scale but may not have the same reach and influence as corporate initiatives. However, when aggregated across a population, individual actions can collectively lead to positive societal changes.	CSR initiatives can have a significant impact on a broader scale compared to individual social responsibility. Large corporations have the resources and reach to make substantial contributions to society and the environment. CSR efforts can improve a company's reputation, attract socially conscious consumers, and create long-term value.
Conclusion	In summary, social responsibility is an individual's commitment to ethical and moral obligations towards society, while CSR is a business-oriented approach that involves companies taking actions to benefit society and the environment while also considering their economic interests. Both social responsibility and CSR are essential for creating a more sustainable and socially conscious world, and they can complement each other when individuals and businesses work together to address societal and environmental challenges.	

4.2 Overview of ISO 26000

1. Introduction to ISO 26000

ISO 26000 is an internationally recognized standard that provides guidelines for organizations on social responsibility. Published by the International Organization for Standardization (ISO), ISO 26000 offers a framework and recommendations for businesses and other entities to understand, assess, and integrate social responsibility into their operations and decision-making processes. It serves as a valuable tool for organizations seeking to align their activities with ethical, social, and environmental principles, while also contributing positively to society and sustainable development.

ISO 26000 was first published in 2010 and has since become a widely adopted reference point for businesses, non-governmental organizations (NGOs), governments, and other stakeholders interested in promoting responsible business practices. This standard does not provide certification but instead offers guidance and principles to help organizations engage in socially responsible behavior voluntarily. The core principles outlined in ISO 26000 include accountability, transparency, ethical behavior, respect for stakeholder interests, and respect for the rule of law. It also addresses various key areas of social responsibility, such as human rights, labor practices, the environment, fair operating practices, consumer issues, and community involvement.

ISO 26000's flexible framework allows organizations to tailor their social responsibility efforts to their specific context and needs. By adhering to the guidance provided in this standard, organizations can enhance their reputation, build trust with stakeholders, and contribute to sustainable development while fulfilling their obligations to society and the environment. Overall, ISO 26000 plays a crucial role in promoting responsible business practices globally and encouraging organizations to make a positive impact beyond their economic interests.

2. Principles of social responsibility according to ISO 26000

ISO 26000 provides a set of core principles that guide organizations in understanding and implementing social responsibility. These principles are essential for organizations to integrate ethical, social, and environmental considerations into their operations and decision-making processes. Seven core principles of social responsibility according to ISO 26000:

- **Accountability:**

Accountability is a fundamental principle that emphasizes organizations' responsibility for their impacts on society and the environment. It requires organizations to acknowledge their role in shaping society and to take ownership of their actions, both positive and negative. This principle underscores the need for transparency and open communication about an organization's social responsibility efforts.

- **Transparency:**

Transparency involves openly communicating information about an organization's social responsibility practices, performance, and impacts. It encourages organizations to provide clear and accurate information to stakeholders, including customers, employees, investors, and the public. Transparent reporting helps build trust and credibility.

- **Ethical Behavior:**

Ethical behavior is a cornerstone of social responsibility. ISO 26000 calls on organizations to adhere to high ethical standards in all aspects of their operations. This includes treating employees, customers, suppliers, and other stakeholders fairly and with respect, as well as avoiding unethical practices such as corruption, bribery, and discrimination.

- **Respect for Stakeholder Interests:**

This principle recognizes that organizations should consider the interests and concerns of all stakeholders affected by their actions. Stakeholders can include employees, customers, communities,

government agencies, NGOs, and others. Organizations are encouraged to engage with stakeholders, understand their needs, and take their perspectives into account when making decisions.

- **Respect for the Rule of Law:**

Organizations are expected to operate in compliance with applicable laws, regulations, and international norms. This principle emphasizes the importance of respecting the legal framework in which an organization operates and ensuring that business activities do not undermine the rule of law or human rights.

- **Respect for International Norms of Behavior:**

ISO 26000 highlights the significance of organizations respecting international norms and standards, particularly those related to human rights, labor practices, and environmental sustainability. This principle encourages organizations to align their practices with internationally recognized guidelines and conventions.

- **Respect for Human Rights:**

Human rights are a fundamental aspect of social responsibility. Organizations are called upon to respect and support human rights in their sphere of influence. This includes avoiding complicity in human rights abuses and addressing human rights challenges within their operations and supply chains.

These seven principles of social responsibility, as outlined in ISO 26000, provide a comprehensive framework for organizations to assess their impact on society and the environment also to develop strategies and practices that promote responsible business conduct. By adhering to these principles, organizations can enhance their reputation, build stronger relationships with stakeholders, and contribute to sustainable development and a more just and ethical global community.

3. The Core Subjects of Social Responsibility

The core subjects of social responsibility, as outlined in ISO 26000, are specific areas or issues that organizations should consider and address when integrating social responsibility into their operations and decision-making processes. These subjects help organizations understand the various dimensions of social responsibility and guide them in making responsible choices. ISO 26000 identifies seven core subjects of social responsibility:

- **Organizational Governance:**

Organizational governance encompasses the structures, systems, and processes by which an organization is directed, controlled, and managed. This subject emphasizes the importance of responsible leadership, decision-making, and accountability within the organization. It includes considerations related to transparency, ethics, and the role of the board of directors or governing body.

- **Human Rights:**

Human rights are fundamental to social responsibility. Organizations are expected to respect and support human rights within their sphere of influence. This subject covers issues such as non-discrimination, labor rights, indigenous rights, and the rights of vulnerable and marginalized groups. Organizations should ensure their activities do not violate human rights and should address any human rights impacts they may have.

- **Labor Practices:**

Labor practices encompass a range of issues related to employment and the workforce. This subject includes topics like fair and equitable employment, worker rights, decent working conditions, labor relations, and occupational health and safety. Organizations are encouraged to uphold labor standards, promote diversity and inclusion, and provide opportunities for employee development.

- **The Environment:**

Environmental responsibility involves minimizing the negative environmental impacts of an organization's operations and products while contributing to environmental sustainability. This subject covers areas such as resource efficiency, pollution prevention, biodiversity conservation, and climate

change mitigation. Organizations are urged to adopt eco-friendly practices and reduce their ecological footprint.

- **Fair Operating Practices:**

Fair operating practices emphasize ethical behavior and integrity in business activities. This subject includes considerations related to anti-corruption, responsible competition, and ethical marketing and advertising. Organizations should avoid bribery and corruption, promote fair competition, and maintain honest and transparent business practices.

- **Consumer Issues:**

Consumer issues revolve around the fair treatment of customers and the provision of safe and reliable products and services. This subject addresses topics like consumer rights, product safety, customer satisfaction, and responsible marketing. Organizations should ensure that their products and services meet quality and safety standards, and they should engage in ethical marketing and advertising practices.

- **Community Involvement and Development:**

Community involvement emphasizes an organization's engagement with the communities in which it operates. This subject includes topics like community development, philanthropy, and stakeholder engagement. Organizations are encouraged to contribute positively to local communities, support social development initiatives, and engage with stakeholders to address community concerns.

These core subjects provide a comprehensive framework for organizations to assess their social responsibility efforts and address the diverse range of social, ethical, and environmental challenges they may encounter. By considering and integrating these subjects into their operations, organizations can make a more significant positive impact on society, the environment, and their stakeholders while demonstrating their commitment to responsible business practices.

4. ISO 26000 in Practice

ISO 26000 provides guidelines for organizations to implement social responsibility practices across various aspects of their operations. Here are some examples of practices that align with ISO 26000 principles and core subjects:

- **Ethical Sourcing and Supply Chain Management (Core Subject: Fair Operating Practices):**

An organization can ensure that its supply chain adheres to ethical labor practices and environmental standards. This may involve auditing suppliers, promoting fair wages and safe working conditions, and sourcing materials and products responsibly to minimize negative impacts.

- **Diversity and Inclusion Initiatives (Core Subject: Labor Practices):**

Implementing policies and practices that promote diversity and inclusion within the workplace. This includes hiring practices that avoid discrimination, providing equal opportunities for all employees, and creating an inclusive and supportive work environment.

- **Environmental Sustainability (Core Subject: The Environment):**

Implementing eco-friendly practices, such as reducing waste, conserving energy, using sustainable materials, and adopting renewable energy sources. Organizations can also set goals for reducing their carbon footprint and water usage.

- **Transparency in Reporting (Core Subject: Transparency):**

Providing clear and comprehensive information to stakeholders, including customers, investors, and the public, about the organization's social responsibility efforts. This may involve publishing sustainability reports that detail environmental and social performance.

- **Community Engagement and Development (Core Subject: Community Involvement and Development):**

Engaging with local communities to understand their needs and concerns. Organizations can support community development initiatives, sponsor educational programs, or contribute to local infrastructure improvements.

- **Anti-Corruption Measures (Core Subject: Fair Operating Practices):**

Developing and implementing anti-corruption policies and procedures, including training employees on ethical conduct and reporting mechanisms for suspected wrongdoing.

- **Human Rights Due Diligence (Core Subject: Human Rights):**

Conducting human rights impact assessments to identify and mitigate potential adverse impacts on human rights, both within the organization and in its supply chain. Addressing issues related to child labor, forced labor, and workers' rights.

- **Product Safety and Quality Assurance (Core Subject: Consumer Issues):**

Ensuring that products and services meet safety and quality standards. Implementing rigorous quality control processes, conducting safety testing, and promptly addressing product recalls or safety concerns.

- **Stakeholder Engagement (Core Subject: Respect for Stakeholder Interests):**

Actively involving stakeholders in decision-making processes and seeking their input on social responsibility matters. This may include regular meetings with community representatives, employees, customers, and NGOs.

- **Corporate Philanthropy and Social Investment (Core Subject: Community Involvement and Development):**

Supporting charitable initiatives and community development projects that align with the organization's values and contribute to the well-being of society.

These examples demonstrate how organizations can implement ISO 26000 principles and core subjects in various aspects of their operations. Social responsibility practices can vary widely depending on the organization's size, industry, and specific context, but the overarching goal is to contribute positively to society, the environment, and stakeholders while upholding ethical standards and principles of responsibility.

5. Case studies of organizations implementing ISO 26000: 2010

While ISO 26000 provides guidelines for social responsibility, it does not involve certification like some other ISO standards. Instead, organizations voluntarily adopt its principles and use them to inform their practices. As a result, there are no ISO 26000 certifications or specific case studies tied to ISO 26000 compliance. However, many organizations have publicly shared their social responsibility initiatives and efforts that align with ISO 26000 principles. Here are a few examples:

- **Unilever:**

Unilever, a multinational consumer goods company, has been widely recognized for its sustainability efforts. They have a Sustainable Living Plan that aligns with many ISO 26000 principles. Unilever has set ambitious goals for reducing their environmental impact, improving the livelihoods of people in their supply chain, and enhancing the health and well-being of consumers through their products. Their commitment to transparency and reporting on their progress also aligns with ISO 26000's emphasis on accountability and transparency.

- **Patagonia:**

Patagonia, an outdoor clothing and gear company, is known for its strong commitment to environmental and social responsibility. They have implemented initiatives such as "1% for the Planet," where they donate 1% of their sales to environmental causes. Patagonia also emphasizes fair labor practices in their supply chain and encourages consumers to repair and recycle their products, promoting sustainability and responsible consumption.

- **IKEA:**

IKEA, the Swedish furniture retailer, has made significant strides in sustainability and responsible sourcing. They have set ambitious goals related to using sustainable materials, reducing energy consumption, and ensuring fair working conditions for their employees and suppliers. IKEA also publishes an annual sustainability report that provides transparency about their progress and challenges, aligning with ISO 26000 principles.

- **Nestlé:**

Nestlé, a global food and beverage company, has a comprehensive approach to social responsibility. They focus on areas such as nutrition, water management, rural development, and responsible sourcing of raw materials. Nestlé's commitment to addressing societal challenges through their business operations aligns with ISO 26000's core subjects and principles.

- **Microsoft:**

Microsoft, the technology giant, has integrated social responsibility into its corporate culture. They have initiatives related to accessibility, digital inclusion, environmental sustainability, and ethical use of technology. Microsoft's commitment to human rights, diversity and inclusion, and ethical business conduct reflects ISO 26000 principles.

These organizations demonstrate how various industries can apply the principles of ISO 26000 in their own unique ways. While they may not seek ISO 26000 certification, they showcase the importance of social responsibility in business operations and provide valuable examples for others looking to align their practices with ISO 26000 principles.

6. Challenges and opportunities in adopting ISO 26000

Adopting ISO 26000, like any framework for social responsibility, presents both challenges and opportunities for organizations. Here's an overview of some of the key challenges and opportunities associated with implementing ISO 26000:

Challenges:

1. **Complexity and Adaptability:** ISO 26000 is a comprehensive framework that covers a wide range of social responsibility topics. This can be overwhelming for some organizations, especially smaller ones, and may require significant resources to understand and implement effectively.
2. **Integration into Existing Practices:** Aligning existing business practices with ISO 26000 principles can be challenging. Organizations may need to make substantial changes to their operations and corporate culture to fully embrace social responsibility.
3. **Resource Constraints:** Implementing ISO 26000 can require financial and human resources, which may be a challenge for smaller organizations with limited budgets or capacity.
4. **Measuring Impact:** Assessing the impact of social responsibility initiatives and determining their return on investment can be complex. It may take time to see tangible results, and organizations may struggle to measure the effectiveness of their efforts.
5. **Stakeholder Engagement:** Engaging with stakeholders and understanding their diverse needs and expectations can be challenging. Managing relationships with various stakeholder groups requires time and effort.

Opportunities:

1. **Enhanced Reputation:** Adopting ISO 26000 can improve an organization's reputation by demonstrating a commitment to responsible business practices. This can attract socially conscious consumers, investors, and partners.
2. **Competitive Advantage:** Organizations that prioritize social responsibility may gain a competitive edge in the market. They can differentiate themselves from competitors and appeal to consumers who value ethical and sustainable products and services.

3. **Innovation and Efficiency:** Pursuing social responsibility can drive innovation within an organization. It encourages creative solutions to social and environmental challenges, which can lead to cost savings and increased efficiency.

4. **Employee Engagement:** Employees often take pride in working for socially responsible organizations. Engaging in social responsibility initiatives can boost employee morale, attract top talent, and reduce turnover.

5. **Risk Mitigation:** Addressing social responsibility issues proactively can help organizations mitigate risks, including legal, regulatory, and reputational risks. This can lead to long-term sustainability.

6. **Global Market Access:** Many international markets and governments favor organizations that adhere to social responsibility standards. ISO 26000 can facilitate access to these markets and partnerships.

7. **Alignment with Sustainable Development Goals (SDGs):** ISO 26000 aligns with the United Nations' Sustainable Development Goals (SDGs). Organizations that adopt ISO 26000 principles can contribute to global efforts to address critical social and environmental challenges.

8. **Long-Term Sustainability:** Organizations that prioritize social responsibility are more likely to have long-term sustainability and resilience. They are better equipped to adapt to changing societal and environmental conditions.

Summary

Adopting ISO 26000 presents organizations with both challenges and opportunities. While implementing social responsibility practices may require significant effort and resources, the benefits can be substantial, including improved reputation, competitive advantage, and long-term sustainability. Organizations that effectively integrate ISO 26000 principles into their operations can contribute to positive social and environmental outcomes while achieving their business objectives.

Discussion questions

1. What is the significance of social responsibility in the context of business ethics and sustainability? How has this concept evolved over time?

2. How does ISO 26000 define and guide organizations in terms of social responsibility? What are the key principles and core subjects outlined in ISO 26000?

3. Can social responsibility be considered a strategic advantage for organizations? Discuss the potential benefits and challenges of implementing social responsibility initiatives.

4. What are the ethical considerations involved in corporate social responsibility (CSR) and ISO 26000 compliance? How can organizations balance profit-making with their social responsibilities?

5. How do different industries and sectors approach social responsibility? Are there sector-specific challenges and opportunities in implementing ISO 26000 guidelines?

6. Share examples of organizations that have successfully integrated ISO 26000 principles into their operations. What lessons can other organizations learn from these examples?

7. Explore the role of leadership in promoting social responsibility within organizations. How can leaders create a culture of social responsibility, and what challenges might they face in doing so?

8. Discuss the role of stakeholders in influencing an organization's social responsibility practices. How can organizations effectively engage with various stakeholder groups as outlined in ISO 26000?

9. What are the potential challenges and criticisms associated with the implementation of ISO 26000? How can these challenges be mitigated, and how can ISO 26000 be improved?

10. Analyze the global context of social responsibility. How do cultural, legal, and societal differences impact the interpretation and implementation of ISO 26000 on a global scale?
11. How does ISO 26000 relate to other sustainability frameworks and standards, such as the United Nations Sustainable Development Goals (SDGs) or GRI (Global Reporting Initiative)? How can organizations align these frameworks for maximum impact?
12. Explore the role of transparency and reporting in social responsibility. How can organizations effectively communicate their efforts and progress to stakeholders, and what role does reporting play in accountability?
13. Discuss the potential economic implications of social responsibility initiatives. Can investing in social responsibility lead to long-term financial benefits for organizations, and how can this be measured?
14. How can organizations assess the social impact of their operations, products, or services using ISO 26000 principles? What methodologies and tools are available for social impact measurement?
15. Debate the ethical dilemmas that organizations may face when attempting to balance profit motives and social responsibility. How can organizations make difficult decisions in the best interest of society?

Suggested reading

- Carroll, A. B. (2016). Carroll's pyramid of CSR: Taking another look. *International Journal of Corporate Social Responsibility*, 1(3), 1-8. DOI: 10.1186/s40991-016-0004-6
- Dahlsrud, A. (2008). How corporate social responsibility is defined: An analysis of 37 definitions. *Corporate Social Responsibility and Environmental Management*, 15(1), 1-13. DOI: 10.1002/csr.132
- Hohnen, P. (2007). *Corporate social responsibility: An implementation guide for business*. International Institute for Sustainable Development.
- Idowu, S. O., & Towler, B. A. (2012). *Corporate social responsibility: Challenges, opportunities, and strategies for 21st-century leaders*. Springer.
- ISO 26000:2010 - Guidance on Social Responsibility.
- Margolis, J. D., & Walsh, J. P. (2003). Misery loves companies: Rethinking social initiatives by business. *Administrative Science Quarterly*, 48(2), 268-305. DOI: 10.2307/3556659.
- Marrewijk, M. V. (2003). Concepts and definitions of CSR and corporate sustainability: Between agency and communion. *Journal of Business Ethics*, 44(2-3), 95-105. DOI: 10.1023/A:1023331212241
- Matten, D., & Moon, J. (2008). 'Implicit' and 'explicit' CSR: A conceptual framework for a comparative understanding of corporate social responsibility. *Academy of Management Review*, 33(2), 404-424. DOI: 10.5465/amr.2008.31193458
- Schmidheiny, S., & Zorraquín, F. J. (Eds.). (2019). *Financing the United Nations development system: The private sector contribution*. Routledge.
- Visser, W., Tolhurst, N., & Deguignet, M. (2011). *The world guide to CSR: A country-by-country analysis of corporate sustainability and responsibility*. Greenleaf Publishing.

CHAPTER 5: FIFTH DISCIPLINE, PERSONAL MASTERY, ICEBERG MODEL, MENTAL MODEL AND U THEORY

This module is designed to provide students with a deep understanding of key concepts and frameworks related to sustainability, systems thinking, personal mastery, and transformative leadership. Through a combination of theoretical discussions, case studies, and practical exercises, students will develop the knowledge and skills necessary to drive sustainability initiatives and create positive change within organizations and communities.

5.1 Introduction to Sustainability and Systems Thinking

1. Basics of Systems Thinking

Sustainability is a multifaceted concept that refers to the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs. It encompasses three interconnected pillars:

- **Environmental sustainability:** this aspect focuses on minimizing the negative impact of human activities on the natural environment. It involves practices that reduce pollution, conserve resources, protect ecosystems, and promote biodiversity.
- **Social sustainability:** social sustainability emphasizes equity, social justice, and the well-being of communities. It involves ensuring that all people have access to basic needs, including food, clean water, healthcare, education, and a safe environment. It also considers cultural preservation and social cohesion.
- **Economic sustainability:** economic sustainability is about maintaining stable and prosperous economies while avoiding activities that deplete resources or harm the environment. It involves responsible resource management, fair trade practices, and promoting economic resilience.

Sustainability recognizes that these three pillars are interrelated and that achieving one pillar's goals should not come at the expense of the others. It calls for a balanced and integrated approach to development and decision-making that considers long-term consequences.

2. Overview of "the fifth discipline" by Peter Senge

The fifth discipline is a concept developed by Peter Senge in his book "the fifth discipline: the art and practice of the learning organization." it refers to the ability of organizations and individuals to cultivate five core disciplines or skills to become "learning organizations.". In the context of sustainability, the fifth discipline is particularly relevant as it emphasizes the importance of systems thinking, which is crucial for understanding the complex interconnections between environmental, social, and economic aspects of sustainability. It encourages organizations to embrace personal mastery, shared vision, team learning, mental models, and systems thinking as essential components of sustainable leadership.

3. Relevance of systems thinking in economic theory and practice

Systems thinking is highly relevant in economic theory and practice for several key reasons:

- **Understanding complexity:** modern economies are incredibly complex, comprising numerous interconnected elements such as markets, industries, institutions, policies, and behaviors. Systems thinking provides a framework to understand the intricate relationships and feedback loops among these elements. It helps economists and policymakers grasp the complexity of economic systems.
- **Holistic analysis:** systems thinking encourages a holistic approach to economic analysis. Instead of isolating specific economic variables, such as gdp or inflation, it considers the entire system.

This allows for a more comprehensive understanding of how changes in one part of the economy can ripple through the entire system.

- **Identifying root causes:** systems thinking delves beneath the surface of economic issues to identify root causes. It goes beyond addressing symptoms and examines the underlying structures and dynamics that contribute to economic challenges. This is essential for crafting effective, lasting solutions to issues like income inequality, financial instability, and unemployment.

- **Predicting system behavior:** economic systems are dynamic and subject to constant change. Systems thinking equips economists and policymakers with tools to model, simulate, and predict how changes in one part of the system might affect the whole. This predictive capability is invaluable for anticipating the consequences of policy decisions and external shocks.

- **Policy design and evaluation:** when designing economic policies, systems thinking encourages policymakers to consider the broader context and potential unintended consequences. It supports the development of policies that maximize benefits while minimizing negative side effects. For example, it helps evaluate how tax changes may impact not just government revenue but also consumer spending, investment, and overall economic stability.

- **Sustainability:** achieving economic sustainability is a global imperative. Systems thinking aids economists in analyzing the long-term environmental and social impacts of economic activities. By recognizing the interconnectedness of economic, environmental, and social systems, it facilitates the development of sustainable economic models and practices.

- **Resilience:** economic systems are vulnerable to various shocks, such as financial crises, natural disasters, or pandemics. Systems thinking helps identify vulnerabilities and develop strategies to enhance economic resilience. It enables policymakers to anticipate and mitigate the effects of disruptions.

- **Interdisciplinary collaboration:** many economic challenges require interdisciplinary solutions. Systems thinking promotes collaboration between economists, environmental scientists, sociologists, and other experts. This multidisciplinary approach is essential when addressing complex problems like climate change, resource management, and poverty reduction.

- **Long-term planning:** economic decisions often have long-lasting impacts. Systems thinking encourages a forward-looking perspective, considering the intergenerational effects of economic policies and investments. It helps policymakers and businesses make decisions that promote long-term economic health and sustainability.

- **Adapting to change:** in a rapidly evolving global economy, adaptability is crucial. Systems thinking equips economists with the mindset and tools needed to adapt to changing economic conditions and emerging challenges. It encourages continuous learning and adjustment.

In summary, systems thinking is highly relevant in economic theory and practice because it provides a comprehensive framework for understanding, analyzing, and managing the complexity and interconnectedness of modern economies. As economic systems become more intricate and face new challenges, the application of systems thinking becomes increasingly essential for informed decision-making, sustainable economic development, and addressing pressing global issues.

5.2 Personal Mastery and Economic Decision-Making

1. Concept of Personal Mastery

Personal mastery is a personal and professional development concept that emphasizes individual growth, self-improvement, and the pursuit of excellence. Here's a detailed explanation of the concept of personal mastery:

- **Continuous learning and growth:** at its core, personal mastery is about a commitment to lifelong learning and personal growth. It encourages individuals to view themselves as a work in progress, constantly seeking to improve their skills, knowledge, and abilities.
- **Self-awareness:** personal mastery starts with self-awareness. It involves gaining a deep understanding of one's values, beliefs, strengths, weaknesses, and aspirations. This self-awareness helps individuals align their actions and decisions with their personal values and goals.
- **Clarity of purpose:** personal mastery encourages individuals to clarify their life purpose and personal vision. It involves answering fundamental questions like, "what do i want to achieve in life?" and "what is my unique contribution to the world?" having a clear sense of purpose provides motivation and direction for personal growth.
- **Goal setting:** setting clear and meaningful goals is an integral part of personal mastery. Goals provide a roadmap for personal development and achievement. These goals can be both short-term and long-term, and they should be challenging yet achievable.
- **Self-discipline:** personal mastery requires self-discipline and the ability to stay focused on long-term goals despite distractions and setbacks. It involves developing habits and routines that support personal growth and progress.
- **Reflection and feedback:** regular self-reflection and seeking feedback from others are essential components of personal mastery. It helps individuals assess their progress, identify areas for improvement, and make necessary adjustments.
- **Resilience and adaptability:** personal mastery also encompasses the ability to bounce back from failures and setbacks. It involves cultivating resilience and adaptability in the face of challenges, as personal growth often involves overcoming obstacles.
- **Creative tension:** Senge introduces the concept of "creative tension" as a driving force behind personal mastery. It refers to the gap between a person's current reality and their vision or goal. This gap creates a sense of tension that motivates individuals to strive for personal growth and move closer to their vision.
- **Application in leadership:** personal mastery is not limited to personal development; it also plays a crucial role in leadership. Leaders who have mastered themselves are better equipped to lead others effectively. They lead by example, inspire their teams, and create a culture of continuous learning and improvement.
- **Contributing to organizational learning:** in the context of senge's ideas about learning organizations, personal mastery contributes to the overall organizational learning process. When individuals within an organization are committed to their personal growth and learning, it fosters a culture of collective learning and innovation.

In summary, personal mastery is a concept that encourages individuals to embark on a lifelong journey of self-discovery, self-improvement, and personal growth. It involves self-awareness, setting clear goals, discipline, resilience, and the pursuit of one's life purpose and vision. Personal mastery is not only beneficial for personal development but also plays a vital role in leadership and contributes to the creation of learning organizations.

2. Role Of Personal Vision and Learning in Economic Leadership

The role of personal vision and continuous learning is highly significant in economic leadership. Economic leaders, whether in government, business, or other sectors, play a crucial role in shaping economic policies, driving innovation, and fostering sustainable growth. Here's an explanation of how personal vision and learning contribute to effective economic leadership:

- **Personal vision:**

Setting direction: a personal vision serves as a guiding star for economic leaders. It provides a clear sense of direction and purpose, helping leaders set ambitious but attainable economic goals. This

vision extends beyond short-term objectives and focuses on the long-term well-being and prosperity of a nation, organization, or community.

Inspiring others: a compelling personal vision inspires and motivates others to rally behind the leader's economic agenda. It helps create a shared sense of purpose among stakeholders, including employees, investors, and the public. When people believe in the leader's vision, they are more likely to support and contribute to its realization.

Resilience: economic leadership often involves making tough decisions and weathering economic challenges. A personal vision can provide the leader with the resilience and determination needed to stay the course during difficult times. It encourages leaders to remain committed to their economic goals, even when faced with obstacles and setbacks.

- **Continuous learning:**

Adaptability: the economic landscape is dynamic and subject to rapid changes, including technological advancements, market shifts, and global economic forces. Leaders who prioritize continuous learning are better equipped to adapt to these changes. They can quickly grasp new trends and opportunities, enabling them to make informed decisions.

Informed decision-making: learning provides economic leaders with the knowledge and insights needed for effective decision-making. It helps leaders stay informed about economic trends, emerging challenges, and potential solutions. Informed decisions are more likely to yield positive economic outcomes.

Innovation: continuous learning fosters a culture of innovation within economic leadership. Leaders who embrace new ideas and perspectives are more likely to drive innovation in their organizations and economies. Innovation can lead to economic growth and competitiveness on a global scale.

Problem solving: economic leaders often face complex and multifaceted problems. Learning equips them with problem-solving skills and the ability to analyze issues from multiple angles. It encourages leaders to seek creative and sustainable solutions to economic challenges.

Global perspective: in today's interconnected world, economic leaders must have a global perspective. Continuous learning helps leaders understand international economic dynamics, trade relationships, and geopolitical factors that can impact their economies. It enables leaders to navigate the complexities of the global marketplace.

Enhancing leadership effectiveness: learning enhances leadership effectiveness by promoting self-awareness and personal growth. Leaders who engage in continuous learning are better equipped to understand their strengths and weaknesses, communicate effectively, and build productive teams.

In summary, personal vision and continuous learning are integral to economic leadership. A well-defined personal vision provides direction, inspires others, and fosters resilience in leaders. Continuous learning ensures that economic leaders remain adaptable, informed, innovative, and effective in addressing the challenges and opportunities of the ever-evolving economic landscape. Economic leaders who embrace these principles are more likely to lead their nations, organizations, or communities toward sustained economic growth and prosperity.

3. Case Studies of Economic Leaders Who Exhibit Personal Mastery

Here are case studies of economic leaders who exhibit personal mastery, showcasing how their commitment to continuous learning, self-improvement, and leadership has contributed to their success:

- **Warren Buffett:**

Background: Warren Buffett is widely regarded as one of the most successful investors in history. He is the chairman and CEO of Berkshire Hathaway, a multinational conglomerate holding company.

Personal mastery characteristics:

- **Continuous learning:** Buffett is known for his dedication to reading and learning. He spends a significant portion of his day reading financial reports, company filings, and books on investing. This commitment to knowledge has contributed to his deep understanding of financial markets.

- **Clarity of purpose:** Buffett has a clear and straightforward investment philosophy, often summarized as "value investing." he seeks to buy high-quality companies at attractive prices and hold them for the long term, emphasizing patience and discipline.

- **Resilience:** throughout his long career, Buffett has faced economic downturns, market crashes, and various challenges. His resilience and ability to remain steadfast in his investment principles have been key to his consistent success.

- **Angela Merkel:**

- **Background:**

Angela Merkel served as the chancellor of Germany from 2005 to 2021 and played a pivotal role in European politics, particularly during the European financial crisis.

- **Personal mastery characteristics:**

- **Adaptability:** Merkel demonstrated exceptional adaptability during the European financial crisis. She navigated complex negotiations and adjusted her approach as needed to find solutions to the economic challenges facing the eurozone.

- **Resilience:** Merkel faced political pressures and criticism during her tenure as chancellor, but her resilience and ability to stay focused on her goals, including promoting European integration and economic stability, were notable.

- **Leadership by example:** Merkel's leadership style is characterized by her calm and analytical approach. She is known for her ability to listen, analyze information, and make informed decisions, setting an example of thoughtful and data-driven leadership.

- **Elon Musk:**

- **Background:**

Elon Musk is a visionary entrepreneur known for his leadership at companies like SpaceX, Tesla, and Neuralink.

- **Personal mastery characteristics:**

- **Innovation and vision:** Musk is recognized for his capacity to think innovatively and envision groundbreaking technologies and industries. His vision extends to space exploration, electric vehicles, and renewable energy, and he relentlessly pursues these goals.

- **Risk-taking and resilience:** Musk has taken substantial risks in his career and has faced numerous setbacks and failures. His resilience and determination in the face of adversity demonstrate his commitment to personal growth and his unwavering pursuit of his vision.

- **Learning from failure:** Musk openly acknowledges his failures and uses them as opportunities for learning and improvement. He views failures as stepping stones to success, which aligns with the principles of personal mastery.

These case studies exemplify how economic leaders with personal mastery characteristics consistently invest in self-improvement, adapt to changing circumstances, exhibit resilience in the face of challenges, and lead by example. Their unwavering commitment to their visions and their willingness to learn and grow have not only contributed to their personal success but have also had a significant impact on their respective economic sectors and regions.

5.3 Iceberg model in economic analysis

1. Understanding the iceberg model

The iceberg model, also known as the iceberg theory, is a metaphorical representation used to illustrate the idea that there are often hidden, underlying factors that drive observable behaviors, actions,

or outcomes. It's named after an iceberg because, just like an iceberg, which only shows a small portion of its mass above the water while the majority remains submerged beneath the surface, people's behaviors and events often reveal only a fraction of the underlying causes and dynamics.

Here's a more detailed explanation of the iceberg model:

- **Surface level (above the water):**

This represents the observable aspects of a situation or behavior. It includes what we can see, hear, or directly perceive. These surface-level elements are often the most apparent and are the ones that typically draw our attention.

- **Submerged level (below the water):**

Beneath the surface level are the hidden or underlying factors, which are not immediately visible but significantly influence the observed behaviors or outcomes. These factors can be psychological, emotional, cultural, historical, or systemic in nature.

2. **Key concepts of the iceberg model:**

- **Depth and complexity:** the iceberg model emphasizes that what is observable is only the tip of the iceberg. The hidden factors below the surface are usually more complex and profound, requiring deeper exploration to understand fully.

- **Unintended consequences:** the hidden factors can often lead to unintended consequences or outcomes that may not be immediately evident. Understanding these underlying causes is essential for addressing and mitigating such consequences.

- **Decision-making:** in various fields, such as psychology, sociology, and business, the iceberg model is used to encourage a deeper examination of factors that influence decision-making and behaviors. By looking beyond the surface, individuals can make more informed and effective decisions.

- **Problem-solving:** when faced with complex problems, the iceberg model encourages a holistic approach to problem-solving. Instead of merely addressing surface-level symptoms, it prompts individuals to explore the deeper-rooted issues and systemic causes.

- **Communication:** the model is also used in communication to remind individuals that what is said or expressed may only represent a small portion of what someone is thinking or feeling. Effective communication often involves understanding the hidden emotions, beliefs, or motivations that may underlie a person's words or actions.

Examples of the iceberg model in practice:

- **Conflict resolution:** when mediating conflicts, understanding the hidden or underlying grievances, fears, or unmet needs of individuals involved is critical for finding lasting solutions.

- **Organizational culture:** in an organization, surface-level behaviors, such as low employee morale or high turnover rates, may indicate deeper cultural issues related to leadership, communication, or work conditions.

- **Market research:** in marketing and consumer research, understanding consumer preferences often requires going beyond what customers explicitly state and delving into the subconscious factors that influence their choices.

- **Psychology and therapy:** therapists use the iceberg model to explore the underlying emotions and experiences that contribute to a client's mental health issues.

In essence, the iceberg model serves as a reminder that a comprehensive understanding of any situation or behavior requires looking beneath the surface to uncover the hidden factors that drive it. This approach can lead to more effective problem-solving, communication, and decision-making in various personal, professional, and societal contexts.

3. **Application of the iceberg model to economic phenomena (e.g., market trends, financial crises).**

The application of the iceberg model to economic phenomena, such as market trends and financial crises, can provide valuable insights into the hidden factors and dynamics that influence these events. By going beyond surface-level observations, economic analysts and policymakers can gain a deeper understanding of the underlying causes and develop more effective strategies for managing and mitigating economic challenges. Here's how the iceberg model can be applied to economic phenomena:

Market trends:

Surface level (above the water):

- Market trends are often reflected in observable data, such as stock prices, consumer spending patterns, or gdp growth rates.
- Analysts and investors frequently focus on these surface-level indicators to make investment decisions or assess economic conditions.

Submerged level (below the water):

Beneath the surface of market trends lie a multitude of hidden factors and dynamics that can influence market behavior:

- Investor sentiment: emotions, biases, and psychological factors play a significant role in driving market trends. Fear, greed, and overconfidence can lead to market bubbles or crashes.
- Fundamental analysis: economic fundamentals, such as interest rates, inflation, fiscal policies, and global economic conditions, can exert substantial influence on market trends.
- Market structure: market structures, including trading algorithms, market regulations, and liquidity, can impact the speed and intensity of market movements.
- Information asymmetry: differences in access to information and the speed at which it is processed can lead to disparities in market participants' abilities to react to news and events.

Application:

- Using the iceberg model, analysts can recognize that market trends are often driven by a complex interplay of visible and hidden factors. This understanding can help in making more informed investment decisions and anticipating market shifts.
- Policymakers can employ the model to assess the impact of regulatory changes, economic policies, and investor sentiment on market behavior. They can also be better prepared to address potential market disruptions by considering the submerged factors.

Financial crises:

Surface level (above the water):

- Financial crises are characterized by visible symptoms, including bank failures, stock market crashes, high unemployment rates, and declining consumer confidence.
- These surface-level indicators often prompt responses from governments, central banks, and international institutions.

Submerged level (below the water):

Beneath the surface of financial crises are hidden factors and systemic vulnerabilities that contribute to their occurrence:

- Excessive risk-taking: financial institutions and investors may engage in excessive risk-taking behaviors, often driven by the pursuit of short-term gains.
- Leverage and debt: high levels of leverage and excessive debt in the financial system can amplify the impact of shocks and lead to systemic instability.
- Regulatory gaps: weaknesses in financial regulations or inadequate oversight can allow risky practices to persist and contribute to instability.
- Complex financial products: the complexity of certain financial instruments can obscure their underlying risks, making it challenging for market participants to assess and manage them effectively.

Application:

- Using the iceberg model, policymakers can recognize that financial crises are not merely the result of sudden events but are often rooted in underlying systemic issues. This understanding can inform regulatory reforms aimed at addressing hidden vulnerabilities.
- Risk managers and financial institutions can apply the model to improve their risk assessment and management practices by considering the submerged factors that may contribute to systemic risks.

In summary, the iceberg model provides a framework for understanding economic phenomena beyond their surface-level manifestations. By acknowledging the hidden factors and dynamics at play, economists, policymakers, and market participants can make more informed decisions, anticipate risks, and develop strategies to promote economic stability and resilience in the face of market trends and financial crises.

5.4 Mental models in economics

In economics, the concept of mental models refers to the cognitive frameworks and beliefs that individuals, including economists, policymakers, and the general public, use to understand and interpret economic phenomena. These mental models influence how people perceive economic issues, make economic decisions, and form economic policies. Here's a more detailed explanation of the concept of mental models in economics:

- **Framework for understanding:** mental models in economics serve as cognitive frameworks that help individuals make sense of economic concepts, events, and relationships. These models provide a structured way of thinking about economic issues and guide how individuals analyze economic situations.
- **Simplification of reality:** mental models in economics simplify the complexity of real-world economic systems. They are abstractions that distill economic principles, theories, and relationships into manageable concepts. While this simplification aids understanding, it can also lead to oversimplification and potentially inaccurate predictions or decisions.
- **Influence on decision-making:** economic decisions, whether made by individuals, businesses, or governments, are often based on mental models. These models inform choices related to spending, investment, saving, pricing, taxation, and policy formulation. For example, a business owner's mental model of supply and demand may influence pricing decisions.
- **Policy formation:** policymakers often rely on their mental models to craft economic policies. These models shape their understanding of the potential impact of policies on variables like inflation, unemployment, and economic growth. Different policymakers may have varying mental models, leading to divergent policy choices.
- **Market behavior:** mental models can influence market behavior. Traders, investors, and market participants often make decisions based on their mental models of market trends, risk, and valuation. These models can contribute to market dynamics, including price volatility.
- **Behavioral economics:** the field of behavioral economics explores how deviations from traditional economic models (often based on rational choice theory) can be explained by individuals' cognitive biases and mental models. Behavioral economics highlights how people may deviate from economic rationality due to heuristics, biases, and bounded rationality.
- **Adaptation and change:** as economic conditions and circumstances change, individuals may adapt or modify their mental models. This adaptability is essential for responding to new economic challenges, technological advancements, and global economic shifts.

- **Interdisciplinary insights:** economics often intersects with other fields such as psychology, sociology, and political science. Professionals from these disciplines bring their unique mental models into discussions of economic phenomena, contributing interdisciplinary perspectives to economic analysis.
- **Communication challenges:** differences in mental models can lead to miscommunication and misunderstandings in economic discussions. Economists and policymakers may need to bridge gaps between their mental models and those of the general public to convey economic concepts effectively.
- **Education and economic literacy:** understanding and improving mental models are central to economic education and literacy efforts. Teaching individuals more accurate economic models and helping them recognize common cognitive biases can lead to better economic decision-making.

In summary, mental models in economics play a fundamental role in shaping how individuals perceive, analyze, and respond to economic issues. These cognitive frameworks influence economic decision-making, policy formulation, market behavior, and the broader economic discourse. Recognizing the existence and impact of mental models is important for both economic analysis and effective communication about economic matters.

5.5 U theory and its application in economic systems

U Theory, also known as Theory U, is a conceptual framework developed by Otto Scharmer, a senior lecturer at MIT and a renowned organizational theorist. U Theory is primarily associated with leadership and organizational change but has broader applications, including in economic systems. It is a process for fostering profound innovation, personal and collective transformation, and systemic change. Here's an explanation of U Theory and its application in economic systems:

The U Process:

U Theory is represented as a U-shaped curve, which outlines a journey from the present state (the top of the U) to a profound level of innovation and change (the bottom of the U) and then up again to a new and improved state (the other side of the U). The U process consists of several stages:

- **Downloading:** At the top of the U, individuals and organizations operate based on their existing mental models, assumptions, and habits. This phase represents the status quo.
- **Sensing:** As individuals and groups move down the U, they engage in deep listening, open-mindedness, and empathy. They suspend their judgments and become more attuned to emerging realities and potential opportunities.
- **Presencing:** In the bottom of the U, individuals experience a state of "presencing," where they connect with their deepest sources of self and tap into their intuition and creativity. This phase is characterized by profound reflection and innovation.
- **Prototyping:** After presencing, individuals and groups start to experiment with new ideas, solutions, and prototypes, moving toward practical implementation.
- **Performing:** Finally, as they move up the other side of the U, individuals and organizations integrate their learning, leading to a new way of operating. This phase represents a transformed state that aligns with emerging needs and possibilities.

Application in Economic Systems:

U Theory can be applied in economic systems at various levels, including within organizations, regions, and entire economies. Here's how it can be used:

- **Organizational Transformation:** U Theory can guide organizations through profound changes in their business models, strategies, and operations. It encourages leaders and teams to shift from conventional thinking to more innovative and sustainable approaches. This can lead to improvements in efficiency, competitiveness, and long-term sustainability.

- **Economic Development:** At the regional or national level, U Theory can inform economic development strategies. It encourages stakeholders to deeply understand the needs and aspirations of their communities, businesses, and citizens, leading to more inclusive and sustainable economic growth.
- **Sustainability:** U Theory aligns with the principles of sustainability by promoting a shift from short-term thinking to long-term, systemic solutions. It encourages economic actors to consider the environmental, social, and economic dimensions of sustainability in their decision-making.
- **Collaborative Innovation:** U Theory emphasizes collaboration, co-creation, and open dialogue. In economic systems, it can foster collaborative innovation among businesses, government agencies, civil society organizations, and academia. This collaborative approach can lead to the development of innovative products, services, and solutions.
- **Systemic Change:** U Theory recognizes the importance of addressing systemic issues in economic systems, such as income inequality, resource depletion, and climate change. By engaging stakeholders in a deep and reflective process, it can facilitate the exploration of systemic solutions and policy changes.
- **Adaptive Leadership:** Leaders in economic systems can apply U Theory principles to become adaptive leaders who are better equipped to respond to rapidly changing economic environments. They learn to sense emerging trends, engage stakeholders, and guide their organizations or regions toward more resilient and sustainable futures.

In summary, U Theory offers a structured approach to profound innovation, transformation, and systemic change. Its application in economic systems can lead to more adaptive, sustainable, and inclusive economic development while addressing complex challenges facing societies and businesses today.

5.6 Integrating The fifth discipline in economic organizations

Integrating the Fifth Discipline, a concept developed by Peter Senge in his book "The Fifth Discipline: The Art and Practice of the Learning Organization," into economic organizations involves applying the principles and practices outlined in the book to improve the organization's ability to learn, adapt, and thrive in a dynamic economic environment. The Fifth Discipline emphasizes the importance of systems thinking, personal mastery, mental models, shared vision, and team learning. Here's how these principles can be integrated into economic organizations:

Systems Thinking:

- **Understanding Interconnections:** Economic organizations need to view themselves as part of a broader economic system. This means recognizing the interconnections between various components of the organization and the external economic environment, including customers, suppliers, competitors, and regulatory bodies.
- **Identifying Feedback Loops:** Applying systems thinking involves identifying feedback loops within the organization and the broader economic system. Understanding how actions and decisions affect long-term outcomes can lead to more informed decision-making.

Personal Mastery:

- **Continuous Learning:** Encourage employees at all levels to embrace personal mastery by fostering a culture of continuous learning. Provide opportunities for skill development, training, and education relevant to their roles and the evolving economic landscape.
- **Empowering Employees:** Allow employees to take ownership of their personal development and career growth. When individuals are committed to personal mastery, they are more likely to contribute to the organization's success.

Mental Models:

- **Challenging Assumptions:** Encourage employees to challenge their existing mental models and assumptions about economic dynamics, customer behaviors, and market trends. Create an environment where open dialogue and constructive skepticism are valued.

- **Diversity of Perspectives:** Promote diversity in the workforce to bring a range of perspectives and mental models to the table. Different viewpoints can lead to more robust decision-making and innovative solutions.

Shared Vision:

- **Develop a Compelling Vision:** Formulate a shared vision that aligns the economic organization's purpose, values, and goals with the broader economic and societal context. A compelling vision provides a sense of purpose and direction that motivates employees and stakeholders.

- **Communication and Engagement:** Communicate the vision consistently and engage employees at all levels in shaping and achieving it. Encourage feedback and involvement in defining the organization's role in the economic landscape.

Team Learning:

- **Collaborative Problem-Solving:** Foster a culture of team learning where employees work collaboratively to address economic challenges. Encourage cross-functional teams to tackle complex issues that require diverse expertise.

- **Reflection and Improvement:** After projects or initiatives, promote reflection and learning from both successes and failures. Encourage teams to identify lessons learned and share knowledge to improve future decision-making.

Leadership Commitment:

- **Lead by Example:** Leaders within economic organizations should lead by example in embracing the Fifth Discipline principles. They should demonstrate a commitment to learning, systems thinking, and continuous improvement.

- **Supportive Leadership:** Ensure that leaders actively support and encourage the integration of the Fifth Discipline in the organization's culture, strategy, and operations.

Measurement and Feedback:

- **Develop Metrics:** Identify key performance indicators (KPIs) and metrics that align with the organization's vision and goals within the economic context. Continuously measure progress and adjust strategies as needed.

- **Feedback Loops:** Establish feedback mechanisms that allow employees, customers, and stakeholders to provide input and insights on the organization's economic impact and alignment with its vision.

Integrating the Fifth Discipline into economic organizations is an ongoing process that requires commitment, leadership, and a willingness to adapt to changing economic conditions. By embracing these principles, organizations can enhance their ability to learn, adapt, and contribute positively to the economic landscape.

5.7 Systems thinking in economic policy and sustainable development

Systems thinking plays a crucial role in economic policy and sustainable development by providing a holistic and interconnected perspective on complex economic and environmental issues. It helps policymakers and stakeholders understand the interdependencies within economic systems and their impact on sustainability. Here's an explanation of how systems thinking is applied in economic policy and sustainable development:

Understanding Complex Systems:

- **Economic Systems:** Economic systems are intricate networks of actors, institutions, markets, and resources that interact with one another. Systems thinking helps policymakers view the economy as a complex and dynamic system, taking into account factors such as supply chains, labor markets, financial markets, and consumer behavior.
- **Sustainability Systems:** Sustainable development involves balancing economic growth, environmental protection, and social well-being. Systems thinking helps identify the interconnections between these dimensions and recognize that decisions in one area can have ripple effects throughout the entire system.

Identifying Feedback Loops:

- **Positive and Negative Feedback:** Systems thinking helps identify feedback loops in economic and sustainability systems. Positive feedback loops amplify changes, potentially leading to rapid growth or collapse. Negative feedback loops act as stabilizers, dampening extreme fluctuations.
- **Economic Policy:** Policymakers can use feedback loop analysis to anticipate the consequences of policy interventions. For example, a tax incentive to promote renewable energy may create a positive feedback loop by encouraging more investment in clean technologies and reducing carbon emissions.
- **Sustainable Development:** In sustainable development, understanding feedback loops is critical. For instance, efforts to reduce deforestation can have positive feedback by mitigating climate change and protecting biodiversity.

Addressing Systemic Challenges:

- **Complex Challenges:** Many economic and sustainable development challenges, such as poverty, inequality, climate change, and resource depletion, are systemic in nature. Systems thinking allows policymakers to consider the root causes and broader systemic factors that contribute to these challenges.
- **Policy Integration:** Systems thinking encourages policymakers to develop integrated policies that address multiple dimensions of sustainability simultaneously. For instance, policies to promote clean energy can contribute to economic growth, reduce emissions, and enhance energy security.

Long-Term Planning:

- **Time Horizons:** Systems thinking extends policymakers' time horizons beyond short-term considerations. It helps them recognize the long-term consequences of decisions and anticipate potential challenges or unintended consequences.
- **Sustainable Goals:** In sustainable development, systems thinking is essential for setting long-term goals and targets, such as achieving net-zero carbon emissions by a specific year. These goals require a systemic understanding of how various sectors and stakeholders interact to achieve sustainability.

Stakeholder Engagement:

- **Multi-Stakeholder Approach:** Sustainable development often involves multiple stakeholders, including governments, businesses, civil society, and communities. Systems thinking promotes collaborative decision-making and encourages stakeholders to consider the broader system's implications.
- **Transparency and Accountability:** Systems thinking fosters transparency in policymaking and encourages accountability for decisions that impact economic and environmental systems.

Adaptive Management:

- **Continuous Learning:** Systems thinking promotes a culture of continuous learning and adaptation. Policymakers can use feedback from monitoring and evaluation processes to adjust policies and strategies as needed.
- **Resilience:** In the face of uncertainty and shocks, systems thinking can help design economic policies and sustainability strategies that build resilience, ensuring that systems can adapt and recover from disruptions.

Summary

Systems thinking in economic policy and sustainable development provides a comprehensive framework for understanding complex systems, identifying feedback loops, addressing systemic challenges, and promoting long-term planning and stakeholder engagement. It contributes to more effective and sustainable policymaking by considering the interconnected nature of economic, social, and environmental systems.

Discussion questions

There are discussion questions for each part as shown below:

Fifth Discipline:

1. How does the concept of the learning organization, as discussed in "The Fifth Discipline," contribute to an organization's long-term success and sustainability?
2. What are the key challenges organizations face when trying to implement the five disciplines, and how can these challenges be addressed effectively?
3. Can you provide examples of organizations that have successfully embraced the principles of the learning organization? What lessons can we learn from their experiences?
4. How does the concept of shared vision contribute to alignment and motivation within an organization? What role do leaders play in shaping and communicating this vision?
5. In what ways can team learning enhance problem-solving, innovation, and adaptability within an organization?

Personal Mastery:

1. Why is personal mastery considered a foundational discipline in the context of the learning organization? How does it impact individual and collective growth?
2. What are the key components of personal mastery, and how can individuals cultivate it in their professional and personal lives?
3. How can personal mastery benefit leaders in terms of decision-making, resilience, and adaptability in a rapidly changing world?
4. Can you share examples of individuals who have demonstrated personal mastery in their careers or personal journeys? What traits or practices set them apart?
5. What role does self-awareness play in the development of personal mastery, and how can individuals enhance their self-awareness?

Iceberg Model:

1. Explain the Iceberg Model and its significance in understanding human behavior and organizational dynamics. How does it relate to hidden and visible aspects of behavior?
2. Provide examples of situations where the Iceberg Model can help uncover underlying issues or motivations in organizations or personal interactions.
3. How can the awareness of the Iceberg Model contribute to improved communication and conflict resolution in professional and personal relationships?

4. Discuss the limitations of the Iceberg Model. Are there situations where it may not accurately represent the complexity of human behavior?

5. How can organizations use the Iceberg Model to promote a culture of openness, trust, and psychological safety among employees?

Mental Model:

1. What are mental models, and how do they shape our perceptions, decisions, and actions in everyday life?

2. Can you provide examples of situations where individuals' mental models have led to cognitive biases or errors in judgment? How can these biases be mitigated?

3. Discuss the role of self-awareness in recognizing and challenging our own mental models. How can individuals become more mindful of their cognitive frameworks?

4. How can organizations encourage employees to embrace a growth mindset and be open to revising their mental models in the face of changing circumstances?

5. Share examples of organizations or leaders that have successfully incorporated the concept of mental models into their decision-making processes for improved outcomes.

U Theory:

1. Explain the U Theory framework and its stages (sensing, presencing, prototyping, performing). How can this framework be applied to individual and organizational transformation?

2. Provide real-world examples of organizations or leaders who have applied U Theory principles to drive innovation and systemic change. What were the results?

3. How does U Theory relate to the concept of adaptive leadership in the face of complex challenges and uncertainty?

4. Discuss the importance of deep listening and empathy in the U Theory process. How can individuals and organizations cultivate these qualities?

5. What are the potential barriers or resistance to embracing U Theory within organizations, and how can these challenges be overcome?

Suggested reading

Argyris, C., & Schön, D. A. (1974). *Theory in Practice: Increasing Professional Effectiveness*. Jossey-Bass.

Argyris, C., and Schön, D. A. (2017). "Theory in Practice: Increasing Professional Effectiveness." *Organizational Dynamics*, 46(1), 50-59.

Garvey, R., and Williamson, D. (2018). "Personal Mastery and Leadership Development." *International Journal of Management and Leadership*, 8(2), 28-39.

Glaser, J. (2013). "Personal Mastery in Leadership Development: The Missing Link." *International Journal of Management and Marketing Research*, 6(1), 23-32.

Goldratt, E. M., and Cox, J. (2013). "The Iceberg Theory of Constraints." *International Journal of Production Research*, 51(8), 2430-2445.

Jaworski, J., and Senge, P. M. (2017). "Presence: An Exploration of Profound Change in People, Organizations, and Society." *Reflections: The SoL Journal*, 18(2), 28-37

Marquardt, M. J. (2016). "Embedding the Fifth Discipline into an Organizational Learning Program." *Organizational Dynamics*, 45(2), 97-105.

Meadows, D. H. (2008). *Thinking in Systems: A Primer*. Chelsea Green Publishing

Scharmer, C. O. (2009). "Theory U: Learning from the future as it emerges." *The Society for Organizational Learning Reflections*, 10(1), 7-27

Scharmer, C. O. (2009). *Theory U: Leading from the Future as It Emerges*. Berrett-Koehler Publishers..

- Scharmer, C. O. (2018). "The Essentials of Theory U: Core Principles and Applications." *Strategy & Leadership*, 46(2), 26-33.
- Senge, P. M. (2006). *The fifth discipline: The art and practice of the learning organization*. Broadway Business
- Senge, P. M. (2013). "The Fifth Discipline and the Unlearning Organization." *Reflections: The SoL Journal*, 14(1), 30-35.

CHAPTER 6: THE CONCEPT OF CIRCULAR ECONOMY

The circular economy is a holistic approach to economic development that seeks to minimize waste and make the most of resources. Unlike the traditional linear economy, which follows a "take, make, dispose" model, the circular economy aims to create a closed-loop system where resources are continuously reused, recycled, and regenerated. This shift in perspective represents a fundamental rethinking of the traditional linear economic model.

The Ellen MacArthur Foundation, a leading advocate for the circular economy, defines it as "an industrial system that is restorative or regenerative by intention and design." This definition emphasizes the importance of designing products and systems with the end of their life cycle in mind, promoting the idea that waste is a potential resource.

6.1 Circular Economy and Key Principles

The definition of the circular economy extends beyond a mere economic model and encompasses a comprehensive and regenerative approach to how societies produce, consume, and manage resources. At its core, the circular economy is a systemic and restorative framework that seeks to redefine economic growth by decoupling it from the traditional linear model, where resources are extracted, transformed into products, and eventually discarded as waste. The Ellen MacArthur Foundation's influential definition emphasizes intention and design as crucial elements in the circular economy. The term "restorative" underscores the goal of replenishing and revitalizing natural systems, while "regenerative" emphasizes the aim of restoring and renewing resources throughout the entire product life cycle. This dual emphasis on restoration and regeneration distinguishes the circular economy from conventional economic paradigms.

In a circular economy, resource flows are optimized through principles such as reducing, reusing, refurbishing, remanufacturing, and recycling. The focus shifts from the linear "take, make, dispose" model to a closed-loop system where products, materials, and components are continually cycled to retain their value and utility. The goal is to minimize waste, energy consumption, and environmental impact, while maximizing the use of renewable energy sources and fostering social inclusivity. The circular economy operates on the premise that waste is not an inevitable byproduct of economic activity but rather a design flaw. This perspective challenges the conventional notion of waste as something to be disposed of and instead considers it as a potential resource. Products are conceived and designed with the end of their life cycle in mind, ensuring that they can be easily disassembled, recycled, or repurposed.

Key principles such as eco-design, cradle-to-cradle thinking, and biomimicry guide the development of products and systems in a circular economy. Eco-design involves integrating environmental considerations into the product design process, with an emphasis on minimizing environmental impact. Cradle-to-cradle thinking posits that products should be designed with the goal of returning all materials to the natural environment or recycling processes without any harm. Biomimicry draws inspiration from nature's solutions to create sustainable and efficient designs.

The circular economy is guided by a set of core principles that underpin its transformative approach to sustainable economic development. These principles are not only foundational to the concept but also serve as a roadmap for businesses, policymakers, and society to transition from a linear, wasteful model to a regenerative and restorative system. The key principles of the circular economy include:

- 1. Design for Circularity:** The principle of designing for circularity is fundamental to the circular economy. It involves reimagining products and systems from their inception, with a focus on

longevity, durability, and end-of-life considerations. Eco-design is a key aspect, ensuring that products are not only functional and aesthetically pleasing but also environmentally sustainable. Designing for circularity also encompasses factors such as ease of disassembly, recyclability, and the use of non-toxic materials.

2. Resource Efficiency: Resource efficiency is a core tenet of the circular economy, emphasizing the optimization of resource use throughout a product's life cycle. This principle encourages strategies like waste reduction, recycling, remanufacturing, and refurbishment. By extracting maximum value from resources and minimizing waste, the circular economy aims to decouple economic growth from resource depletion and environmental degradation.

3. Closing the Loop: At the heart of the circular economy is the concept of closing the loop, which involves creating systems where products and materials are continuously reused, recycled, and regenerated. This principle challenges the traditional linear model of "take, make, dispose" and advocates for circular systems that retain the value of materials for as long as possible. Closing the loop reduces dependence on virgin resources and minimizes the environmental impact associated with extraction and disposal.

4. Collaboration and Innovation: Collaboration and innovation are essential principles driving the circular economy. Achieving circularity requires cooperation among stakeholders across the value chain, including businesses, governments, communities, and consumers. This collaborative approach fosters the exchange of knowledge, expertise, and resources to overcome challenges and drive systemic change. Innovation, both technological and systemic, is a catalyst for developing new business models, processes, and solutions that align with circular principles.

5. Lifecycle Thinking: Lifecycle thinking involves considering the entire life cycle of a product, from raw material extraction to manufacturing, distribution, use, and end-of-life. This principle encourages a holistic approach that evaluates the environmental and social impacts at every stage. By adopting lifecycle thinking, decision-makers can identify opportunities for improvement, prioritize sustainable practices, and make informed choices that contribute to the overall circularity of a product or system.

6. Biomimicry and Nature-Inspired Design: Biomimicry is a principle that draws inspiration from nature's time-tested designs and processes to create sustainable solutions. By emulating natural systems, which operate in closed-loop cycles and produce no waste, biomimicry encourages innovative design and manufacturing practices aligned with the circular economy. Nature-inspired design principles include adaptability, resilience, and efficiency, providing valuable insights for sustainable product development.

As the circular economy gains prominence globally, these principles serve as a comprehensive framework for transitioning toward more sustainable economic systems. Their interconnected nature reinforces the idea that circularity is not a singular action but a holistic and integrated approach that requires commitment, innovation, and collaboration across various sectors and disciplines. In essence, the circular economy represents a paradigm shift that challenges the traditional linear economic model, acknowledging the finite nature of resources and the interconnectedness of economic, social, and environmental systems. It calls for a collective and innovative approach from businesses, policymakers, and society at large to create a resilient and sustainable future.

6.2 The evolution of Circular Economy. From linear to Circular Economy

The evolution of the circular economy concept is a dynamic journey marked by key intellectual contributions, paradigm-shifting ideas, and a growing recognition of the need for sustainable resource

management. The roots of this transformative concept can be traced back to the early 20th century but gained significant speed in later decades as scholars and practitioners sought alternatives to the prevailing linear economic model.

- **Early Influences: Industrial Ecology and Cradle-to-Cradle Design (20th Century)**

The early seeds of the circular economy were sown in the mid-20th century with the emergence of the field of industrial ecology. Visionaries such as Robert Ayres and Fumio Matsumura explored the interdependence of industrial systems and the environment, laying the groundwork for later discussions on closing the loop in resource use. In the 1970s, Walter R. Stahel and Genevieve Reday introduced the cradle-to-cradle design concept, advocating for a cyclical approach where products are designed with the intent of being easily disassembled and reused or recycled. Stahel's pioneering work in the field of industrial sustainability marked a critical step toward the circular economy's conceptualization.

- **Popularization of Industrial Ecology (1980s)**

The term "industrial ecology" gained prominence in the 1980s through the influential work of Robert Frosch and Nicholas Gallopoulos. They envisioned industrial systems that mimicked ecosystems, where waste from one process became a resource for another, thereby reducing environmental impact. This era laid the foundation for the circular economy by emphasizing the importance of minimizing waste and optimizing resource use.

- **Towards the Circular Economy (21st Century)**

The 21st century witnessed a substantial acceleration of interest and commitment to the circular economy, driven by mounting concerns about resource depletion, climate change, and environmental degradation. The Ellen MacArthur Foundation, established in 2010, emerged as a leading advocate for the circular economy. The foundation's landmark reports, such as "Towards the Circular Economy" (2013) and "A New Dynamic: Effective Business in a Circular Economy" (2014), played a pivotal role in popularizing and defining the circular economy concept.

- **Global Recognition and Policy Integration (2015 Onwards)**

In 2015, the United Nations included the promotion of the circular economy in its Sustainable Development Goals (SDGs), underscoring its global significance. Governments and international organizations began recognizing the potential of circular economy principles to address pressing environmental and social challenges. European countries, in particular, have taken notable steps in integrating circular economy concepts into policy frameworks. The European Commission's Circular Economy Action Plan, launched in 2015 and updated in 2020, exemplifies a comprehensive strategy to transition to a more circular economic model.

- **Academic Research and Innovation (Ongoing)**

Academic research continues to contribute significantly to the evolution of the circular economy concept. Scholars from diverse disciplines, including economics, engineering, and environmental science, explore new methodologies, assess the environmental and economic impacts of circular practices, and propose innovative solutions to advance the circular economy agenda.

In summary, the evolution of the circular economy concept is characterized by a rich history of intellectual contributions, policy developments, and a growing global recognition of the need for a more sustainable and regenerative economic model. As the concept continues to evolve, it remains a focal point for interdisciplinary collaboration, innovation, and transformative change in the way societies approach resource management and economic development.

6.3 Systems thinking in circular economy implementation

In the transition towards a circular economy, traditional linear thinking must give way to a more holistic approach that considers the complex interconnections and feedback loops within systems.

Systems thinking offers a framework for understanding the dynamics of circularity, recognizing the intricate relationships between actors, processes, and resources. This section explores the principles of systems thinking and their application in the context of the circular economy, highlighting the importance of adopting a systemic perspective to address the interconnected challenges of sustainability and resource management. Systems thinking encompasses several fundamental principles that underpin its approach to understanding complex systems. These principles help in analyzing the interconnectedness, dynamics, and behaviors of systems in general and its applications to the circular economy concept will lead to a better and more effective implementation. Specifically, the benefits of such approach are:

- **Understanding Interconnections:** Systems thinking helps identify the intricate interconnections between various components of the circular economy, such as material flows, resource inputs, production processes, consumption patterns, and waste management systems. By mapping out these interconnections, practitioners can identify leverage points for intervention and optimization.

- **Assessing Feedback Loops:** Systems thinking enables the analysis of feedback loops within circular economy systems. Positive feedback loops, such as increased demand for recycled materials leading to improved recycling infrastructure, can reinforce circular practices. Negative feedback loops, such as rebound effects from efficiency gains leading to increased resource consumption, may counteract circular efforts. By understanding these feedback mechanisms, practitioners can design interventions to enhance the effectiveness of circular strategies.

- **Identifying System Boundaries:** Systems thinking helps define the boundaries of circular economy systems and their interactions with the broader socio-economic and environmental context. This includes considering the impacts of circular initiatives on global supply chains, resource availability, ecosystem services, and social equity. Understanding system boundaries is crucial for assessing the holistic impacts and trade-offs of circular interventions.

- **Promoting Holistic Solutions:** Systems thinking encourages holistic approaches to circular economy challenges, recognizing that solutions must address multiple dimensions of sustainability simultaneously. This may involve integrating circular principles into product design, supply chain management, policy development, and consumer behavior. By considering the systemic implications of circular strategies, practitioners can develop more effective and sustainable solutions.

- **Managing System Dynamics:** Systems thinking acknowledges the dynamic nature of circular economy systems and the importance of managing system dynamics over time. This includes anticipating potential shifts in demand, technological innovations, regulatory changes, and socio-economic trends that may influence the effectiveness of circular initiatives. By monitoring and adapting to system dynamics, practitioners can ensure the resilience and long-term success of circular economy transitions.

- **Fostering Collaboration:** Systems thinking encourages collaboration among diverse stakeholders, recognizing that circular economy transitions require coordinated efforts across sectors, disciplines, and scales. By fostering dialogue, knowledge sharing, and collective action, practitioners can leverage the collective intelligence and resources of stakeholders to overcome barriers and drive systemic change.

Therefore, systems thinking provides a powerful lens through which to understand the dynamics of circular economy systems, revealing the interconnectedness and feedback loops that shape resource flows and sustainability outcomes. By adopting a systemic perspective, policymakers, businesses, and stakeholders can develop more effective strategies for transitioning towards a circular economy, fostering resilience, innovation, and sustainability across multiple scales and domains.

6.4 The 5 R's of the circular economy

The 5 R's of the circular economy represent a set of principles and actions aimed at promoting sustainability, reducing waste, and creating a more circular and resource-efficient system. These principles guide individuals, businesses, and policymakers in adopting practices that contribute to a more sustainable and regenerative economy. The 5 R's are often summarized as:

1. Reduce: encourages minimizing the use of resources and the generation of waste. It involves finding ways to consume less, whether it's raw materials, energy, or other inputs. By reducing consumption, individuals and businesses can lower their environmental impact and contribute to the overall conservation of resources. This can involve using energy-efficient technologies, optimizing production processes, and adopting more sustainable consumption patterns.

2. Reuse: involves extending the lifespan of products and materials by finding new purposes for them or by allowing them to be used multiple times before disposal. Instead of discarding items after a single use, the goal is to design products and systems that encourage reuse, either through refurbishment, repair, or repurposing. This helps to minimize waste and prolong the functional life of products.

3. Recycle: involves the process of collecting, processing, and transforming materials into new products or components to be reintroduced into the manufacturing cycle. Recycling plays a crucial role in closing the loop of materials, reducing the need for virgin resources and minimizing environmental impact. It involves separating and processing waste materials, such as paper, glass, plastics, and metals, to create new products.

4. Recover: focuses on extracting value from waste materials, including energy recovery through processes like incineration or the extraction of valuable resources from waste. Even after recycling, some materials may not be suitable for direct reuse. Recovery methods aim to extract energy or valuable components from these materials, contributing to the efficient use of resources and minimizing the environmental impact of waste disposal.

5. Rethink: involves reevaluating traditional business models, consumption patterns, and systems to find innovative and sustainable alternatives. This principle emphasizes the importance of challenging existing norms and exploring new ways of doing things. It encourages businesses and individuals to adopt circular thinking, considering the entire life cycle of products and services and identifying opportunities for greater sustainability.

Together, the 5 R's form a holistic framework for achieving a circular economy, where resources are used more efficiently, waste is minimized, and the environmental impact of consumption and production is reduced. Adopting these principles requires a shift in mindset, innovative design, and collaborative efforts across various sectors to create a more sustainable and regenerative economic system.

While the classic 5 R's—Reduce, Reuse, Recycle, Recover, and Rethink—provide a comprehensive framework for promoting circular economy principles, some variations and extensions have been proposed to further emphasize specific aspects or add nuance to the concept. Some of those variations are:

1. Refuse: encourages individuals and businesses to refuse or reject products and practices that are not sustainable or aligned with circular economy principles. By refusing items that are overpackaged, non-recyclable, or have a significant environmental impact, consumers contribute to reducing demand for unsustainable products and encouraging producers to adopt more circular practices.

2. Repair: emphasizes the importance of repairing products rather than discarding them when they malfunction or show signs of wear and tear. Repairing items promotes longevity, reduces the need for new replacements, and extends the life of products.

3. Regenerate: highlights the idea of restoring and renewing natural systems, ecosystems, and resources. It recognizes the interconnectedness of human activities with the environment. It encourages practices that contribute to environmental regeneration, such as sustainable agriculture, reforestation, and measures that enhance biodiversity.

4. Return: suggests the concept of returning products, materials, or nutrients back to the production cycle, contributing to a closed-loop system. This emphasizes the importance of designing products and systems that enable the return of materials to the economy. It includes practices such as product take-back programs and the utilization of waste as a resource.

5. Remanufacture: Some variations include "Remanufacture" as an additional R, highlighting the importance of reengineering and restoring products to like-new conditions. Remanufacturing involves disassembling, cleaning, repairing, and reassembling products to extend their life cycle. Including this R emphasizes the role of advanced manufacturing techniques in creating high-quality, refurbished goods

These additional R's underscore specific aspects of circular economy practices, offering a more nuanced and comprehensive approach to sustainability. Depending on the context, different variations of the R's may be emphasized to address specific challenges or promote particular principles within the circular economy framework.

- **Barriers to Circular Economy**

While the circular economy holds immense promise for sustainable resource management and economic resilience, its widespread adoption faces various challenges and barriers. This section explores the key barriers to implementing the circular economy, drawing on academic research and industry insights to provide a comprehensive understanding of the obstacles that must be overcome.

- **Lack of Circular Economy Awareness and Education**

One significant barrier to the widespread adoption of circular economy practices is the lack of awareness and education. Many businesses, policymakers and individuals are still unfamiliar with the principles and benefits of the circular economy. Research by Bocken et al. (2014) emphasizes the need for educational programs to enhance understanding and promote the adoption of circular practices among stakeholders. Without a solid understanding of the circular economy, businesses may be hesitant to invest in the necessary changes, hindering progress.

- **Economic and Regulatory Barriers**

Economic structures and regulatory frameworks often act as barriers to circular economy adoption. The traditional economic model may prioritize linear practices, making it challenging for businesses to justify the upfront costs associated with transitioning to circular practices. Additionally, existing regulations may not adequately support or incentivize circular initiatives. Addressing these challenges involves aligning regulatory frameworks with circular economy goals, providing economic incentives, and fostering collaboration between businesses and regulatory bodies.

- **Short-Term Economic Pressures**

Businesses frequently face short-term economic pressures that can discourage investments in circular practices. The focus on quarterly profits and immediate financial returns may divert attention from long-term sustainability goals. Overcoming this barrier necessitates a shift in corporate mindset, encouraging businesses to recognize the long-term benefits and resilience associated with circular economy practices.

- **Technological and Infrastructural Challenges**

The successful implementation of the circular economy relies heavily on technological advancements and robust infrastructure. In some cases, the lack of advanced technologies and inadequate infrastructure for efficient resource recovery and recycling acts as a significant impediment. Collaborative efforts among researchers, industries, and policymakers are essential to develop and implement cutting-edge technologies and infrastructure that support circular practices.

- **Cultural and Behavioral Resistance**

Cultural and behavioral factors play a crucial role in the adoption of circular economy practices. Resistance to change, ingrained consumer habits, and a lack of motivation to recycle or reuse can impede progress. Overcoming these barriers requires targeted interventions, awareness campaigns, and educational initiatives that shift cultural norms and encourage sustainable behaviors at both individual and organizational levels.

- **Inadequate Collaboration and Knowledge Sharing**

The circular economy's success is based on collaboration among diverse stakeholders, including businesses, governments, communities, and consumers. Inadequate collaboration and knowledge sharing can impede progress, hindering the development and dissemination of best practices. Overcoming this barrier involves fostering a culture of collaboration, establishing platforms for knowledge exchange, and incentivizing partnerships between different sectors.

- **Circular Economy Practices**

In this section, we aim to provide insights into the diverse practices that contribute to minimize the impact of the industry activities and the human being into the environment. From product design to end-of-life considerations, these practices exemplify the circular economy in action.

- 1. Eco-Design and Sustainable Product Development**

A fundamental aspect of circular economy practices is eco-design, which involves integrating environmental considerations into the product design process. This practice focuses on minimizing environmental impact throughout the entire product life cycle. Companies such as Interface, a modular flooring manufacturer, have successfully adopted eco-design principles by using recycled materials and designing products with disassembly and recycling in mind.

Examples:

- **Tesla - Electric Vehicles with Sustainable Materials:** Tesla, a pioneer in electric vehicles, incorporates eco-design principles into its vehicles. Tesla's electric cars are designed with a focus on energy efficiency, and the company uses sustainable materials in its vehicle interiors. For example, the Tesla Model 3 features vegan leather seats, reducing the environmental impact associated with traditional leather production. (Source: Official website <https://www.tesla.com/about>)
- **Patagonia - Sustainable Outdoor Apparel:** Patagonia is well-known for its commitment to sustainable and eco-friendly practices. The company designs outdoor apparel with a focus on durability, repairability, and the use of recycled materials. Patagonia's Worn Wear program encourages customers to trade in used clothing, extending the lifespan of products and reducing overall textile waste. (Source: Official website <https://wornwear.patagonia.com/>)
- **IKEA - Sustainable Home Furnishings:** IKEA, a global furniture and home goods retailer, integrates eco-design into its products. The company uses responsibly sourced and recycled materials, reduces packaging waste, and designs products with disassembly and recycling in mind. IKEA's commitment to sustainability is reflected in its goal to be a fully circular and climate-positive business by 2030. (Source: Official website <https://www.ikea.com/us/en/this-is-ikea/sustainable-everyday/>)
- **Dell - Sustainable Electronics:** Dell focuses on sustainable product development in the electronics industry. The company incorporates eco-friendly materials, designs energy-efficient products, and operates take-back programs for recycling old electronics. Dell's closed-loop recycling initiatives aim to reuse materials from recycled electronics in new products. (Source: Official website <https://corporate.delltechnologies.com/sustainability/>)
- **Unilever - Sustainable Packaging and Formulations:** Unilever, a consumer goods company, prioritizes eco-design in its product packaging and formulations. The company aims to make all its plastic packaging recyclable, reusable, or compostable by 2025. Unilever also focuses on reducing the

environmental impact of its products through sustainable sourcing and eco-friendly formulations. (Source: Official website <https://www.unilever.com/sustainable-living/>)

- **Extended Producer Responsibility (EPR)**

Extended Producer Responsibility is a regulatory approach that holds manufacturers responsible for the entire life cycle of their products, including post-consumer disposal. Countries like Germany and Japan have implemented successful EPR programs, compelling producers to take responsibility for the collection, recycling, and proper disposal of their products.

Examples:

- **European Union's Waste Electrical and Electronic Equipment (WEEE) Directive:** The European Union's WEEE Directive is a prime example of EPR in action. Under this directive, electronics producers are responsible for financing the collection, treatment, and recycling of electronic waste. They must establish take-back systems, provide information to consumers about proper disposal methods, and meet specific recycling targets. (Source: https://environment.ec.europa.eu/topics/waste-and-recycling/waste-electrical-and-electronic-equipment-weee_en)

- **End-of-Life Vehicle Recycling Program in Japan:** Japan has implemented a robust EPR program for managing end-of-life vehicles, which aims to reduce the environmental impact of vehicle disposal and promote resource recovery. Under the program, automobile manufacturers are responsible for financing and managing the collection, treatment, and recycling of ELVs. (Source: <https://www.jarc.or.jp/en/recycling/>).

- **Remanufacturing and Refurbishment**

Remanufacturing and refurbishment involve restoring used products to a like-new condition, often surpassing their original performance. These practices extend the lifespan of products and reduce the demand for new raw materials.

Remanufacturing is a comprehensive industrial process that involves disassembling, cleaning, repairing, and rebuilding a product to restore it to a like-new or even better condition. The goal of remanufacturing is to extend the product's life cycle, reduce waste, and minimize environmental impact. Remanufacturing is applied to various industries, including automotive, electronics, machinery, and more. Remanufactured products, often referred to as "remanufactured goods" offer a sustainable alternative to new products by utilizing existing materials and reducing the demand for new raw materials. This practice contributes to circular economy principles by promoting resource efficiency and minimizing waste.

Refurbishment refers to the process of renovating, repairing, or restoring a product, building, or system to a condition that resembles new or involves substantial improvement. The goal of refurbishment is to extend the lifespan and usability of an item by addressing wear and tear, outdated components, or other issues. This process often involves repairing or replacing damaged parts, upgrading technology, and enhancing overall performance. Refurbishment is normally performed in electronics, furniture, machinery, and other items. Refurbished products are typically pre-owned items that have undergone this renewal process, allowing them to be reintroduced to the market with improved functionality and appearance. The refurbishment process contributes to sustainability by promoting reuse, reducing waste, and conserving resources compared to manufacturing entirely new products.

Examples of Remanufacturing:

- **Caterpillar Remanufactured Components:** Caterpillar, a leading manufacturer of construction and mining equipment, offers a comprehensive remanufacturing program. They remanufacture various components, such as engines, transmissions, and hydraulic parts, to like-new specifications. Customers can purchase these remanufactured components as cost-effective and sustainable alternatives to new ones. (Source: Official website https://www.cat.com/en_US/products.html)

- **Xerox Remanufactured Printers and Cartridges:** Xerox offers remanufactured printers and cartridges through its Green World Alliance program. This initiative promotes sustainability by collecting

used Xerox products, remanufacturing them to meet original performance standards, and reintroducing them into the market. (Source: Official website <https://www.xerox.com/en-us/about/ehs>)

- Hewlett Packard (HP) Remanufactured Printers and Ink Cartridges: HP has a remanufacturing program for printers and ink cartridges. Through HP's Planet Partners program, used products are collected, and the materials are reused to create remanufactured printers and cartridges, contributing to resource conservation. (Source: <https://www.hp.com/us-en/sustainable-impact/planet-product-recycling.html>)

Examples of Refurbishment:

- Apple Certified Refurbished Products: Apple offers certified refurbished products, including iPhones, MacBooks, and iPads. These devices undergo a rigorous refurbishment process, including testing, cleaning, and replacing any faulty parts. Apple's certified refurbished products come with a warranty, providing customers with a reliable and more affordable option. (Source: <https://www.apple.com/shop/refurbished>)

- Dell Outlet Refurbished Computers: Dell Outlet offers refurbished computers, laptops, and other electronics. These products are returned, inspected, and restored to like-new condition before being made available for sale at a discounted price. Dell's refurbishment program provides a sustainable option for customers looking for reliable electronics. (Source: <https://www.dell.com/en-us/dfh/shop/outlet/cp/outlet>)

- Amazon Renewed: Amazon Renewed is a program that offers refurbished and pre-owned products, including electronics, appliances, and more. These products are tested and certified to look and work like new, providing customers with affordable and sustainable alternatives.

These examples demonstrate how remanufacturing and refurbishment are implemented by reputable companies across various industries, providing consumers with sustainable alternatives to new products.

- **Waste-to-Energy and Resource Recovery**

Circular economy practices also encompass waste-to-energy solutions, where waste materials are utilized to generate energy. Waste-to-energy plants, such as those in Sweden, convert non-recyclable waste into electricity and heat, contributing to both waste reduction and energy generation. Resource recovery facilities play a similar role, extracting valuable materials from waste streams for reuse or recycling.

Examples:

- Waste-to-Energy Plants in Copenhagen, Denmark: Copenhagen exemplifies a successful waste-to-energy model, where the city's waste management system efficiently converts municipal solid waste into energy. The waste is incinerated at state-of-the-art facilities, generating heat and electricity for residential and industrial use. This approach not only addresses waste management challenges but also contributes to the city's energy needs, showcasing the integration of waste-to-energy as a sustainable solution. (Source: <https://www.cip.com/>)

- The Ames Resource Recovery Plant, USA: The Ames Resource Recovery Plant in Ames, Iowa, employs waste-to-energy practices to convert municipal solid waste into electricity. The facility utilizes advanced technologies to combust waste efficiently, capturing energy and reducing the volume of landfill-bound waste. By generating electricity from waste, the plant contributes to the local energy grid and demonstrates the environmental benefits of waste-to-energy solutions. (Source: <https://www.cityofames.org/government/departments-divisions-i-z/resource-recovery-system>)

- Veolia's Resource Recovery Facility, UK: Veolia, a global environmental services company, operates resource recovery facilities that focus on extracting valuable materials from waste streams. In the UK, Veolia's facilities utilize advanced sorting technologies to recover metals, plastics, and other

recyclables from mixed waste. This resource recovery approach aligns with circular economy principles by maximizing the reuse of materials and minimizing landfill disposal. (Source: <https://www.veolia.co.uk/>)

- **Waste-to-Energy Plant in Shenzhen, China:** Shenzhen, China, hosts one of the largest waste-to-energy plants globally. The facility processes municipal solid waste through incineration, generating electricity for the city. By adopting this waste-to-energy approach, Shenzhen addresses both waste management challenges and contributes to the local energy grid. The plant utilizes advanced technologies to minimize environmental impact and maximize energy recovery. (Source: <https://www.nsenenergybusiness.com/projects/shenzhen-east-waste-energy-plant/#>)

These examples showcase diverse waste-to-energy and resource recovery practices implemented in different regions, emphasizing the versatility and effectiveness of these approaches in addressing waste management challenges while harnessing energy or recovering valuable resources.

- **Product as a Service (PaaS) and Sharing Platforms**

Transitioning from an ownership model to a service-oriented approach is a notable practice in the circular economy. Product as a Service (PaaS) models, exemplified by companies like Philips in their lighting solutions, involve customers paying for the service a product provides rather than owning the product itself. Sharing platforms, such as Airbnb and Zipcar, promote the shared use of resources, reducing the overall demand for new products.

Examples:

- **Zipcar - Car Sharing Service:** Zipcar is a prominent car-sharing service that operates on a Product as a Service (PaaS) model. Users can access vehicles on a short-term basis, paying for the service of using a car when needed, rather than owning a vehicle. This model promotes resource efficiency and reduces the overall number of cars on the road, contributing to lower carbon emissions. (Source: <https://www.zipcar.com/how>)

- **Signify/Philips Lighting - Light as a Service (LaaS):** Signify, formerly known as Philips Lighting, offers Light as a Service (LaaS), a PaaS model for lighting solutions. Instead of purchasing light fixtures, customers subscribe to lighting services, paying for the illumination provided. This approach encourages energy-efficient lighting solutions, and Philips remains responsible for maintenance, upgrades, and recycling at the end of the product's life. (Source: <https://www.signify.com/en-us/lighting-services/managed-services/light-as-a-service>)

- **Rent the Runway - Fashion Rental Service:** Rent the Runway is a fashion-sharing platform that operates on a PaaS model. Users subscribe to the service, gaining access to a rotating wardrobe of clothing items for a fixed monthly fee. This model encourages sustainable fashion consumption by reducing the need for constant clothing purchases and promoting the reuse of garments. (Source: <https://www.renttherunway.com/impact>)

- **Lime - Electric Scooter Sharing:** Lime is an electric scooter-sharing platform that exemplifies the principles of sharing economy. Users can locate and rent electric scooters through a mobile app for short-term use, paying for the service provided. This model contributes to sustainable urban mobility by reducing the need for personal vehicle ownership and providing an alternative mode of transportation. (Source: <https://www.li.me/about>)

These examples showcase the diverse applications of the Product as a Service (PaaS) model and sharing platforms across different industries, fostering resource efficiency, reducing waste, and promoting sustainable consumption patterns.

- **Digital Technologies for Traceability and Circular Supply Chains**

Digital technologies play a crucial role in enabling circular practices, particularly in creating traceable and transparent supply chains. Blockchain technology, for instance, allows for secure and transparent tracking of products from raw materials to end-of-life, ensuring the integrity of circular processes.

Examples:

- **IBM Food Trust - Blockchain in Food Supply Chain:** IBM Food Trust employs blockchain technology to enhance traceability in the food supply chain. By creating an immutable and transparent record of each transaction, from farm to consumer, IBM Food Trust ensures greater visibility, reduces food fraud, and enables quicker identification of contaminated products. This contributes to a more circular and sustainable food supply chain. (Source: <https://www.ibm.com/food>)
- **Provenance - Transparent Supply Chains:** Provenance utilizes blockchain and other digital technologies to bring transparency to supply chains. The platform allows businesses to trace and share information about the production, journey, and environmental impact of products. This transparency aids in building consumer trust and supporting circular practices by highlighting sustainable and ethical sourcing. (Source: <https://www.provenance.org/>)
- **Everledger - Blockchain in Diamond Supply Chain:** Everledger uses blockchain to trace the origins of diamonds, providing a transparent and secure ledger of each diamond's journey from the mine to the consumer. This technology ensures the ethical sourcing of diamonds and minimizes the risk of conflict diamonds entering the market. By enhancing traceability, Everledger contributes to a more circular and responsible diamond supply chain. The company has expanded the application of this technology to include other luxury products such as art, gemstones and critical minerals. (Source: <https://everledger.io/industry-solutions/>)
- **Circularise - Blockchain for Circular Economy:** Circularise employs blockchain to create transparency in circular supply chains. The platform enables manufacturers to share information about the composition and recyclability of products. By providing a secure and accessible record, Circularise supports circular economy practices by facilitating the recycling and repurposing of materials. (Source: <https://www.circularise.com/knowledge-hub>)
- **Cisco's Circular Supply Chain Program:** Cisco has implemented digital technologies, including the Internet of Things (IoT) and analytics, to enhance traceability and circularity in its supply chain. Through real-time monitoring and data analysis, Cisco optimizes the use of resources, minimizes waste, and promotes the circularity of materials within its supply chain. (Source: <https://www.cisco.com/c/en/us/about/circular-economy.html?dtid=ossdc000283>)

These examples demonstrate the application of digital technologies, particularly blockchain, IoT, and analytics, to enhance traceability and promote circular practices in various supply chains, ranging from food and diamonds to broader sustainability efforts.

- **Community-Based Initiatives and Circular Business Models**

Circular economy practices extend beyond traditional business models, incorporating community-based initiatives and collaborative approaches. The Cradle to Cradle (C2C) certification, as seen in companies like Ecover, ensures that products are designed for recyclability and environmental safety, aligning business success with sustainable practices.

Examples:

- **Fairphone - Ethical and Modular Smartphones:** Fairphone is a social enterprise that produces ethically sourced and modular smartphones. Their business model emphasizes transparency in the supply chain, fair labor practices, and the design of phones that can be easily repaired and upgraded. This approach aligns with circular principles by extending the lifespan of electronic devices and promoting responsible consumption. (Source: <https://www.fairphone.com/en/story/>)
- **Zero Waste Scotland - Circular Economy Business Support:** Zero Waste Scotland operates community-based initiatives to support businesses in adopting circular practices. Through various programs and resources, the organization helps businesses transition to circular business models, emphasizing waste reduction, resource efficiency, and community engagement. (Source: <https://www.zerowastescotland.org.uk/circular-economy/business-support>)

These examples highlight the diverse applications of community-based initiatives and circular business models across different industries, fostering sustainability, community engagement, and responsible resource management.

- **Circular Agriculture and Agroecology**

Circular agriculture emphasizes regenerative farming practices that mimic natural ecosystems. This approach minimizes waste and environmental impact while promoting soil health and biodiversity. Practices such as agroforestry, crop rotation, and the use of organic waste as compost contribute to circular agriculture. The Ellen MacArthur Foundation's work on the "Food and Agriculture: The Circular Economy Opportunity" highlights the potential of circular practices in the agriculture sector.

Examples:

- **ReGen Villages initiative in the Netherlands:** ReGen Village, located in the Netherlands, is an innovative example of circular agriculture and agroecology in practice. The village is designed to be entirely self-sufficient, with its own food production systems integrated into the community. Residents have access to shared agricultural spaces, including vertical gardens, aquaponic systems, and permaculture gardens, which provide a diverse range of fruits, vegetables, and herbs. Waste from the community is composted and used to fertilize crops, closing the nutrient loop. ReGen Village demonstrates how circular agriculture and agroecology principles can be applied at the community level to promote sustainability, resilience, and self-sufficiency. (Source: <https://www.regenvillages.com/>)

- **Agroecological Practices in Costa Rica:** Costa Rica has been at the forefront of promoting agroecological practices as a means of enhancing food security, conserving biodiversity, and mitigating climate change. The country has implemented policies and initiatives to support small-scale farmers in adopting agroecological techniques such as polyculture, crop rotation, and biological pest control. For example, coffee farmers in Costa Rica have transitioned from monoculture plantations to shade-grown coffee agroforestry systems, which not only produce higher-quality coffee but also provide habitat for native bird species and help sequester carbon in soil and vegetation. These agroecological practices prioritize ecological health and resilience while supporting the livelihoods of rural communities. (Source: <https://www.lagranvista.com/>)

These examples illustrate how circular agriculture and agroecology principles can be applied in diverse contexts to promote sustainable food production, enhance ecosystem health, and support resilient rural communities. By adopting regenerative practices that mimic natural systems and prioritize resource efficiency, farmers and communities can build more sustainable and equitable food systems for the future

- **Closed-Loop Textile Systems**

The fashion industry is increasingly adopting circular practices through closed-loop textile systems. The Ellen MacArthur Foundation's Make Fashion Circular initiative collaborates with fashion industry leaders to promote circular fashion practices. The initiative encourages the adoption of circular business models, including closed-loop textile systems, to reduce waste and pollution in the fashion industry. Companies like Patagonia and H&M are exploring clothing recycling programs, where old garments are collected, sorted, and either recycled into new textiles or repurposed. This practice reduces the environmental impact of textile production and minimizes textile waste.

Examples:

- **Patagonia's Worn Wear Program:** Patagonia's Worn Wear program is a prime example of a closed-loop textile system in the fashion industry. The program encourages customers to trade in their used Patagonia clothing for store credit. The returned items are then repaired, refurbished, and resold through the Worn Wear marketplace, extending the lifespan of the products and minimizing waste. (Source: <https://wornwear.patagonia.com/>)

- **H&M's Garment Collection Program:** H&M's Garment Collection initiative is designed to collect used clothing from customers. The collected garments are sorted, and depending on their

condition, are either resold as second-hand clothing, reused as materials for new clothing, or recycled into textile fibers. This closed-loop system promotes circularity in the fashion industry. (Source: <https://hmggroup.com/sustainability/circularity-and-climate/recycling/>)

- **Circular Systems - Textile Recycling Technologies:** Circular Systems focuses on developing innovative technologies for textile recycling. Their technologies, like the Texloop™ and Agraloo™ systems, aim to transform textile waste, including post-consumer and post-industrial cotton and denim, into new fibers. This closed-loop approach contributes to reducing the environmental impact of textile production. (Source: <https://circularsystems.com>)

- **The Ellen MacArthur Foundation's Make Fashion Circular Initiative:** The Ellen MacArthur Foundation's Make Fashion Circular initiative collaborates with fashion industry leaders to promote circular fashion practices. The initiative encourages the adoption of circular business models, including closed-loop textile systems, to reduce waste and pollution in the fashion industry. (Source: <https://www.ellenmacarthurfoundation.org/our-work/activities/make-fashion-circular>)

These examples illustrate how closed-loop textile systems are implemented by various companies and initiatives, emphasizing the importance of recycling, reusing, and repurposing textile materials to create a more sustainable and circular fashion industry.

- **Circular Urban Planning and Smart Cities**

Circular principles are making their way into urban planning and the development of smart cities. Designing cities with circularity in mind involves incorporating green spaces, efficient waste management systems, and circular supply chains for construction materials. Cities like Amsterdam and Copenhagen are pioneering circular urban planning initiatives, aiming for zero waste and sustainable urban living.

Examples:

- **Green roof initiative in Copenhagen, Denmark:** Copenhagen has embraced circular urban planning through initiatives like the Green Roof Initiative, which promotes the installation of green roofs on buildings across the city. Green roofs not only provide environmental benefits such as improved air quality and reduced urban heat island effect but also contribute to circularity by enhancing biodiversity, reducing stormwater runoff, and extending the lifespan of roofs. (Source: <https://interlace-hub.com/green-roof-policy-copenhagen>)

- **Circular economy strategy in Amsterdam, Netherlands:** Amsterdam has implemented a comprehensive circular economy strategy aimed at transforming the city into a circular hub by 2050. The strategy involves initiatives such as promoting circular procurement, fostering collaboration between businesses and research institutions, and encouraging circular design in urban planning projects. For example, the city launched the Circular Buiksloterham project, a sustainable urban development area where circular principles are integrated into design, construction, and waste management practices. (Source: <https://www.amsterdam.nl/en/policy/sustainability/circular-economy/>)

- **Smart City Development in Masdar City, Abu Dhabi:** Masdar City is a planned sustainable urban development project in Abu Dhabi, United Arab Emirates. It aims to be one of the world's most sustainable cities, with a focus on renewable energy, resource efficiency, and smart technologies. The city integrates renewable energy sources like solar power, utilizes advanced waste management systems, and employs smart grid technologies to optimize energy use. Additionally, Masdar City serves as a living laboratory for testing and implementing innovative solutions for sustainable urban living. (Source: <https://masdarcity.ae/>)

- **Reverse Logistics and Take-Back Programs**

Reverse logistics involves the efficient movement of products from consumers back to manufacturers for recycling, remanufacturing, or proper disposal. Take-back programs, such as those implemented by electronics manufacturers Dell and Apple, encourage consumers to return end-of-life

products for responsible recycling. These programs reduce electronic waste and promote the circular use of materials.

Examples:

- **Dell - Dell Reconnect:** Dell's Reconnect program is an example of a take-back initiative in the electronics industry. In partnership with Goodwill, Dell encourages customers to responsibly recycle their old computers and electronics by dropping them off at designated Goodwill locations. The program ensures that electronic waste is properly handled, promoting recycling and reducing the environmental impact of electronic disposal. (Source: <https://www.dell.com/en-us/blog/the-dell-reconnect-program-provides-solutions-to-e-waste>)

- **Nike - Reuse-A-Shoe Program:** Nike's Reuse-A-Shoe program is a take-back initiative in the footwear industry. Customers can drop off old athletic shoes at Nike stores or designated collection locations. The collected shoes are then processed to create Nike Grind materials used in various products, such as sports surfaces and new shoes. This program emphasizes the circular use of materials and reduces shoe waste. (Source: <https://www.nike.com/help/a/recycle-shoes>)

- **IKEA - Furniture Take-Back Program:** IKEA's Furniture Take-Back program allows customers to return used furniture to IKEA stores. The returned furniture is then refurbished, resold, or recycled, contributing to a closed-loop system for furniture. This initiative aligns with IKEA's commitment to sustainability and circular practices in the furniture industry. (Source: <https://www.ikea.com/us/en/customer-service/services/buyback-pubfeb6cc00>)

- **Apple - Apple Trade In:** Apple's Trade In program is a reverse logistics initiative in the technology industry. Customers can trade in their old Apple devices, such as iPhones, iPads, and Macs, for credit toward the purchase of new Apple products. The returned devices are then refurbished, resold, or recycled, promoting the responsible disposal and reuse of electronic devices. (Source: <https://www.apple.com/shop/trade-in>)

These examples showcase how reverse logistics and take-back programs are implemented by companies in various industries, emphasizing responsible disposal, recycling, and circular approaches to product lifecycle management.

- **Circular Tourism and Sustainable Hospitality**

The tourism industry is increasingly embracing circular practices to minimize its environmental impact. Circular tourism involves strategies like waste reduction, energy efficiency, and the use of sustainable materials in the construction of accommodations. Hotels adopting circular practices, such as Marriott with its Serve 360 sustainability initiative, aim to create a positive impact on local communities and ecosystems.

Examples:

- **Six Senses Hotels Resorts Spas - Sustainability Initiatives:** Six Senses, a luxury hotel and resort chain, incorporates circular and sustainable practices into its operations. The company focuses on energy efficiency, waste reduction, and conservation efforts. Their commitment to sustainability includes initiatives like sourcing local and organic products, minimizing single-use plastics, and engaging in community-based projects. (Source: <https://www.sixsenses.com/en/sustainability>)

- **Accor - Planet 21 Sustainable Development Program:** Accor, a multinational hospitality company, runs the Planet 21 program, which integrates sustainability into its hotels and operations. The program includes measures to reduce energy and water consumption, minimize waste, and promote responsible sourcing. Accor's commitment to circularity contributes to a more sustainable and responsible hospitality industry. (Source: <https://group.accor.com/en/commitment/approach/sustainability-strategy>)

- **Soneva Resorts - Eco-Friendly Luxury Tourism:** Soneva Resorts, known for its luxury eco-friendly resorts, incorporates circular principles into its operations. The company emphasizes waste reduction, energy efficiency, and community engagement. Initiatives include on-site waste-to-compost

programs, sustainable building practices, and conservation efforts to protect local ecosystems. (Source: <https://soneva.com/responsibility-at-soneva>)

- Marriott International - Serve 360: Marriott International's Serve 360 program is a commitment to sustainability and social impact across its global hotel portfolio. The program addresses environmental and social issues, including responsible sourcing, energy efficiency, and community engagement. Marriott aims to integrate circular practices into its operations to reduce environmental impact. (Source: <https://serve360.marriott.com>)

- TUI Group - Sustainable Tourism Initiatives: TUI Group, a global tourism company, is actively involved in sustainable tourism initiatives. TUI emphasizes reducing the environmental impact of its operations, promoting eco-friendly accommodations, and engaging in destination stewardship. The company's commitment to sustainable practices aligns with circular tourism principles. (Source: <https://www.tuigroup.com/en-en/responsibility/sustainability>)

These examples showcase how leading hospitality and tourism companies integrate circular and sustainable practices into their operations, emphasizing environmental responsibility, community engagement, and a commitment to reducing the industry's overall ecological footprint.

The practices outlined in this section offer a glimpse into the diverse and innovative strategies employed in the circular economy. As businesses, policymakers, and individuals continue to adopt and refine these practices, they contribute to the collective effort of reshaping our economy into one that is regenerative, sustainable, and resilient.

Summary

The circular economy is more than an economic model; it represents a holistic and regenerative approach to how societies produce, consume, and manage resources. It seeks to redefine economic growth by moving away from the linear model of extraction, transformation, and disposal. The Ellen MacArthur Foundation's influential definition highlights intention and design, emphasizing the restorative and regenerative aspects that set it apart from traditional economic paradigms.

In the circular economy, resource flows are optimized through principles like reducing, reusing, refurbishing, remanufacturing, and recycling. The focus shifts to a closed-loop system, minimizing waste and environmental impact while maximizing renewable energy use and promoting social inclusivity. Waste is viewed not as an inevitable byproduct but as a design flaw, challenging the conventional notion of disposal and recognizing it as a potential resource. The circular economy operates on the premise that products should be designed with their end-of-life cycle in mind, facilitating easy disassembly, recycling, or repurposing. Key principles such as eco-design, cradle-to-cradle thinking, and biomimicry guide product development, integrating environmental considerations, ensuring minimal impact, and drawing inspiration from nature's sustainable designs. These principles form the foundation of a transformative approach to sustainable economic development. They serve as a roadmap for businesses, policymakers, and society to transition from a linear, wasteful model to a regenerative and restorative system in the pursuit of a more sustainable and resilient future.

The widespread adoption of the circular economy, despite its promise for sustainable resource management, faces several barriers. Addressing these barriers involves a multidimensional approach, including educational initiatives, regulatory alignment, mindset shifts, technological advancements, cultural interventions, and enhanced collaboration among stakeholders. The circular economy practices collectively aim to optimize resource use, minimize waste, reduce environmental impact, and create a more resilient and sustainable economic system. They involve a paradigm shift from the traditional linear economy to a circular approach that prioritizes long-term sustainability and regeneration.

Discussion questions

1. What is the origin of circular economy?
2. Why is circular economy important?
3. What are the principles of circular economy?
4. Who should implement the circular economy philosophy?
5. What is the difference between remanufacturing and refurbishment?
6. What are the 5 R's of circular economy?
7. What are the challenges faced in circular economy implementation? How could those challenges be solved? an analysis of the CSR program in your country.

Suggested reading

- Blomsma, F., & Brennan, G. (2017). "The emergence of circular economy: A new framing around prolonging resource productivity." *Journal of Industrial Ecology*, 21(3), 603–614
- Bocken, N. M. P., Short, S. W., Rana, P., & Evans, S. (2014). A literature and practice review to develop sustainable business model archetypes. *Journal of Cleaner Production*, 65, 42–56.
- Ellen MacArthur Foundation. (2019). *Food and Agriculture: The Circular Economy Opportunity*.
- Ellen MacArthur Foundation. (2013). *Towards the circular economy Vol. 1: an economic and business rationale for an accelerated transition*.
- Ellen MacArthur Foundation. (2014). *Towards the circular economy Vol. 3: accelerating the scale-up across global supply chains*.
- Hassan, H., & Faggian, R. (2023). System thinking approaches for circular economy: Enabling inclusive, synergistic, and eco-effective pathways for sustainable development. *Frontiers in Sustainability*, 4. <https://www.frontiersin.org/articles/10.3389/frsus.2023.1267282>
- Korhonen, J., Honkasalo, A., & Seppälä, J. (2018). Circular economy: the concept and its limitations. *Ecological economics*, 143, 37-46.
- Reuber, R. L., & Delle Fave, A. (Eds.). (2020). *Circular Economy: Global Perspectives on Sustainable Production and Consumption*. Springer.
- Robinson, S. (2022). Chapter 3—A systems thinking perspective for the circular economy. In A. Stefanakis & I. Nikolaou (Ed.), *Circular Economy and Sustainability* (s. 35–52). Elsevier. <https://doi.org/10.1016/B978-0-12-819817-9.00034-X>
- Stahel, W. R., Spichiger, P., Ferretti, N., & Sala, S. (2019). *Circular Economy: A Textbook*. Routledge

CHAPTER 7: CONCEPT OF FINANCIAL SUSTAINABILITY

In recent years, investors have increasingly taken actions to integrate climate change and broader sustainability concerns into their investment decisions and portfolio allocations. However, there is a widely perceived need for greater certainty on the environmental sustainability of different types of investments and economic activities

The increasingly rising demand for sustainable investment opportunities itself can be interpreted as a promising sign to help close the financing gap. However, current levels of green/sustainable investments are far from what is necessary to allow for the required transition towards a sustainable economy. This in turn leads to amplified risks for the financial sector in the future, when climate change impacts and other ESG-related risks materialize at an increasingly severe scale, delayed policy actions are abruptly taken, and social unrest may unfold.

7.1 What is sustainable finance?

Based on The European commission, “sustainable finance refers to the process of taking **environmental, social and governance (ESG)** considerations into account when making investment decisions in the financial sector, leading to more long-term investments in sustainable economic activities and projects. **Environmental considerations** might include climate change mitigation and adaptation, as well as the environment more broadly, for instance the preservation of biodiversity, pollution prevention and the circular economy. **Social considerations** could refer to issues of inequality, inclusiveness, labor relations, investment in people and their skills and communities, as well as human rights issues. The **governance** of public and private institutions – including management structures, employee relations and executive remuneration – plays a fundamental role in ensuring the inclusion of social and environmental considerations in the decision-making process and systems with the end of their life cycle in mind, promoting the idea that waste is a potential resource. Collectively, the definitions of sustainable finance can be grouped into two categories. The first category views sustainable finance as finance that takes into account economic, social and governance considerations while the second category views sustainable finance as finance that meets the long-term needs of the economy.

Several studies in the literature have defined sustainable finance. For instance, Ryszawska (2016) defines sustainable finance as finance that supports sustainable development in three combined dimensions which are the economic dimension, environmental dimension, and the social dimension. Migliorelli (2021) defines sustainable finance as finance that supports sectors or activities that contribute to the achievement of at least one of the relevant sustainability dimensions. Gerster (2011) defines sustainable finance as finance that takes into account environmental, social, and governance (esg) factors. Ozili (2021) defines sustainable finance as finance that takes into account esg considerations when making investment decisions in the financial sector. Bakken (2021) defines sustainable finance as investment decisions that take into account the ESG factors of an economic activity or project. Sommer (2020) defines sustainable finance as the mobilization and allocation of capital to support the transition towards a more sustainable economy. The International Capital Market Association defines sustainable finance as finance that incorporates climate, green and social finance while also adding wider considerations concerning the longer-term economic sustainability of the organizations that are being funded, as well as the role and stability of the overall financial system in which they operate (International Capital Market Association 2020). United Nations Environment Programme defines sustainable finance as finance that meets the

long-term needs of a sustainable and inclusive economy along all dimensions relevant to achieving those needs, including economic, social, and environmental issues (un Environment, 2017).

7.2 The importance of sustainable finance

Sustainable finance has a key role to play in delivering on the policy objectives under the European green deal as well as the EU's international commitments on climate and sustainability objectives. It does this by channeling private investment into the transition to a climate-neutral, climate-resilient, resource-efficient and fair economy, as a complement to public money. Sustainable finance will help ensure that investments support a resilient economy and a sustainable recovery from the impact of the COVID-19 pandemic.

The European Union strongly supports the transition to a low-carbon, more resource-efficient and sustainable economy and has been at the forefront of efforts to build a financial system that supports sustainable growth.



Figure 7. 1 Many words, one concept
Source: Roncalli and Thierry (2023).

7.3 Three interdependent perspectives drive the rationale behind the importance of Sustainable Finance

From a sustainability perspective, Sustainable Finance deals with the requirement to finance the transition towards a sustainable socioeconomic pathway. To close the financing gap, unprecedented investments are required. The financial sector plays an important role in mobilizing and channeling these financial resources, thereby “shifting the trillions” of existing financial assets towards low-carbon, sustainable and resilient investments. Increasingly, asset owners, investment managers and banks consider this transition as a business opportunity and align their investment and financing strategy accordingly.

From a risk perspective, sustainability-related risks (ESG risks) are increasingly considered as material financial risks. Such risks are thereby affecting the economic performance of any entity in the

value chain, including investees, as well as the repayment capacity of borrowers. The financial industry is being required to adequately identify, assess and manage risks in connection with sustainability aspects, particularly environmental and climate change related sources of financial risks. Physical Risks result from damage to property, land, and infrastructure, e.g. from extreme weather-related events and broader climate trends and more broadly can lead to loss of life and migration. This reduces asset values, results in lower profitability for companies, damages public finances, and increases the cost of settling underwriting losses for insurers. Indirect effects on the macroeconomic environment, such as lower output and productivity, exacerbate these direct impacts

Transition Risks refer to risks resulting from economic costs and regulatory adjustments during the transition towards a more sustainable and carbon-neutral economy. These risks can be related to climate mitigation efforts, whereby abrupt policy changes to reduce carbon emissions, and therewith limit global warming, could have significant impact on the economy. Disruptive technological change can be another source of transition risk, for example developments in alternative and cleaner sources of energy, as well as changing consumer and market behaviors towards 'greener' products and services, that can result in structural economic shifts. A third, and closely interlinked source is changing market sentiment, that can, for instance, result from an anticipation of policy changes and changing consumer behavior. In these processes towards a greener and carbon neutral economy, particularly when happening abruptly, re-valuations of underlying financial assets are likely.

Reputational risks become more relevant with the increasing awareness and sensitivity related to climate change and wider sustainability considerations (such as human or labor rights violation), amplified by the increasing importance of social media and other communication technology. It becomes socially unacceptable for financial institutions and asset owners to disregard ESG considerations. Liability risks may hit the perpetrators of environmental damage, entities (both public or private) that have fuelled climate change or have violated other ESG criteria. They are being held responsible by governments, international organizations and courts, potentially irrespective of direct negligence or fault. It may also include the compensation paid by insurers of certain ESG-risk.

7.4 Effects on different financial sector stakeholders

SF affects all stakeholders in the financing and investment chain. It requires, in particular:

1. The public sector to set a coherent framework, that enables and incentivizes
2. Companies to develop/transition to sustainable business models
3. Banks, asset managers and asset owners to demand a sustainable utilization of their financial resources.

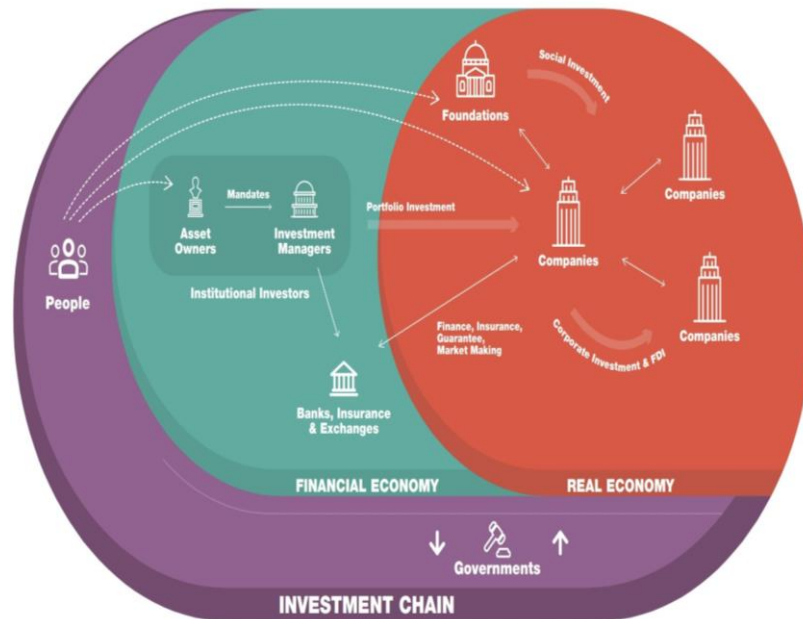


Figure 7. 2 Investment Chain
Source: adapted from UN (2020)

7.5 The Brief History of responsible and ethical investing

Short history of responsible and ethical investing from an historical point of view, we observe three stages. In the 1990s and 2000s, the word “sustainable finance” is not really used. The term “responsible investment” is preferred because of the ethical considerations of some final investors and asset owners. In the 2010s, “ESG investing” takes the lead because it gains momentum in the asset management industry. Moreover, ESG rating agencies adopted the breakdown of the extra-financial information into environmental, social and governance pillars. Finally, the concept of ESG spreads across all financial actors and sectors (e.g., corporates, banks, regulators, policy makers and central banks). In this context, the investment side is not only concerned, but it also affects financing, regulation, society and public policies. Therefore, it is better to use the term “sustainable finance”, which is more generic than responsible or ESG investing. The previous evolution (responsible investment → ESG → sustainable finance) can be explained by the history of ethical investment.

The concept of “sin stocks” was born, and the relationship between responsible investment and profitability led to many academic publications on these topics. This first period of sustainable finance may be summarized as follows: “Do no harm. That is the central concept of traditional faith-based investing and, to some degree, the central concept of socially responsible investing: Avoiding products or industries that conflict with a set of moral values.”

The question of moral values is also the main factor explaining the development of corporate social responsibility (CSR). This theory begins with the publication of “Social Responsibilities of the Businessman” by Bowen (1953). In this book, the author analyzed the responsibilities to society that companies are expected to assume. Considered as the “Father of Corporate Social Responsibility” (Carroll, 1999), Howard Bowen assumed that “CSR can help business reach the goals of social justice and economic prosperity by creating welfare for a broad range of social groups, beyond the corporations and their shareholders.” Regarded as an alternative to socialism and pure capitalism, CSR is rejected by neoclassical economists. One of the most famous opponents is Milton Friedman: “There is one and only one social responsibility of business — to use its resources and engage in activities designed to increase its profits

so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud.” (Friedman, 1962).

According to Townsend (2020), the current concept of sustainable finance mixes “the traditional North American model for socially responsible investing, and ESG, which first took hold in Europe”. It is true that the Who Cares Wins (WCW) conferences had rather a European orientation, with participants mainly coming from European asset owners and managers, especially the 2005 conference (WCW, 2005). While SRI is more an exclusion and qualitative process at its inception in North America, ESG is a best-in-class and quantitative process when it is implemented at the beginning of the 2000s. The growth of ESG data and ESG rating agencies⁶ largely explains this shift. One reason is “the strong intellectual and legal debate on the relationship between fiduciary duty and issues of sustainability” (Townsend, 2020, page 6). In 2005.

Sustainable Finance Theory presents several theories as following: the priority theory of sustainable finance, the resource theory of sustainable finance, the peer emulation theory of sustainable finance, the life span theory of sustainable finance, the positive signalling theory of sustainable finance, and the system disruption theory of sustainable finance. Priority theory of sustainable finance the priority theory of sustainable finance argues that the rate at which economic agents make every effort to achieve sustainable finance goals in a country or region is a true reflection of the priority given to the sustainable finance agenda (Wilson 2010). The priority can be assessed from three dimensions: (i) the coordinated, independent and collaborative efforts put together by economic agents towards achieving sustainable finance goals, (ii) how quickly or slowly a consensus is reached, and (iii) how quickly or slowly actions are taken towards achieving sustainable finance goals. The peer emulation theory of sustainable finance The peer emulation theory of sustainable finance argues that economic agents take similar actions, or adopt similar policies and strategies, of the peers they emulate in pursuit of sustainable finance goals. The peer emulation theory of sustainable finance suggests that, when there are no uniform standards to guide action towards sustainable finance, economic agents resort to adopting similar policies or actions taken by the peers

7.6 The life span theory of sustainable finance

This theory is adapted from Vernon’s product cycle hypothesis (Vernon 1979). The life span theory of sustainable finance argues that interest in sustainable finance is affected by the life span of sustainable finance products, services, instruments, schemes, policies or activities. It argues that sophisticated economic agents know that sustainable finance products, services, instruments, schemes, policies or activities (hereinafter ‘sustainable finance products’) have a life cycle which begins with the introduction of sustainable finance as a new concept, the growth of sustainable finance, the maturity of sustainable finance, and the decline of sustainable finance.

7.7 System disruption theory of sustainable finance

The system disruption theory of sustainable finance argues that pursuing sustainable finance goals may disrupt the structure of the traditional/mainstream financial system and can disrupt businesses that rely heavily on traditional/mainstream financing. The disruption caused by the transition to sustainable finance, depending on its severity, may lead to resistance from affected economic agents, or a general lack of public support for the sustainable finance agenda. Under this theory, the potential disruption to the existing system (traditional/mainstream finance) arising from the transition can compel economic agents to make a decision on whether or not to support or join the transition to sustainable finance. Economic agents will base their decision on whether the perceived benefits of sustainable finance

outweigh the costs, and whether the resulting disruption will significantly affect their business, income or means of livelihood.

7.8 Positive signaling theory

The positive signalling theory argues that economic agents have an incentive to disclose positive information about their commitment to pursue one or more sustainable finance goals in order to signal good news to external parties who can support their goals (Quatrini 2021; Park 2018). Economic agents can disclose positive information about their sustainable finance intentions by making direct public announcements in the media or by providing additional voluntary financial and non-financial information in their published annual reports.

Resource theory of sustainable finance the resource theory of sustainable finance proposes that the differences in human-made resources capable of supporting the attainment of sustainable finance goals is an explanation for why some countries have made tremendous progress in achieving their sustainable finance goals compared to other countries. The resource theory of sustainable finance argues that some countries have superior human-made resources which give them a comparative advantage in achieving their sustainable finance goals and in transitioning to sustainable finance, compared to other countries. For example, some countries have abundant foreign reserves, a budget surplus, low external debt, a well-developed financial sector, advanced financial technology systems, robust financial regulation and supervision, strong climate change monitoring systems, better education about sustainability, a population that is sustainability-conscious, and a large number of institutional investors willing to invest in sustainable finance instruments. Countries with these abundant human-made resources have a comparative advantage and are therefore able to achieve their sustainable finance goals easily and more quickly than countries that do not have these resources.

7.9 A framework for sustainable finance

As the preceding survey on finance, ethics and sustainability has demonstrated, finance and capital market theory lack an explicit and integrated paradigm which could justify a term “sustainable finance”. Finance, on the one hand, is still predominantly operating in the traditional neoclassical understanding as an ethical value-free discipline. On the other hand, academic, political and business awareness of sustainability has emerged at the firm level. Beside the so-called business case of sustainability (Wilson 2003, p. 2), a growing number of investors, asset managers and financial intermediaries are willing to integrate sustainability criteria into their asset management processes. The financial industry is viewed as one of the fundamental stimulators for firms to adopt responsible and sustainable policies referring to environmental, social and governance goals (Haigh/Hazelton 2004, Mill 2006).

7.10 Sustainable Finance Investment Strategies

Sustainable finance investment strategies are either negative/exclusionary or positive/integrated.

A. Negative (Exclusionary) Sustainable Finance This category is typically risk screened against a range of non-financial performance metrics across ESG categories, that leads to a recalibration of the long-term risk profiles of, for example, high-carbon intensity companies. Strategically, such screening results in divestment from, or the avoidance of, ESG high risk investments. The most common risk screen is high carbon intensity, but other risks include failures in:

- Internal organizational structures, practices, and processes, such as effective internal accountability and transparent governance; strong worker relations; fair pay and safe working conditions; clear strategies to improve the inclusivity and diversity of the workforce; committed investment in human capital and local communities; using recycling models to maximize the effective use of resources.

- External organizational effects and outcomes, such as respect for human rights and strategies to tackle inequality; and minimizing pollution an extension of passive screening that developed more recently is the more active use of voting rights to challenge corporate behavior.

Positive (Integrated) Sustainable Finance typically aims to achieve a ‘Double Delta of impact by providing both new, additional, capital and by focussing on high potential start-ups or high growth potential impact companies. Positive sustainable finance is often aligned with making an additional contribution towards one or more of the UN SDGs. This is sometimes called Socially Responsible Investment.

7.11 Sustainable Finance Categories

- **Environmental (Green) Finance In terms of ESG categories**, environmental finance is more commonly described as ‘green finance’. Green finance provides start-up or growth capital into innovative enterprises that address climate related issues (positive/integrated) or divests from companies that perpetuate the climate crisis (negative/exclusionary). Negative - exclusionary - green finance typically focuses on moving investments from high carbon intensity to low carbon intensity companies (as divestment) or allocating capital to companies that are aiming to reduce their overall carbon footprint. A particular issue here is the long-term risk profile associated with investments in petrochemicals companies has been categorized as reflecting the mispriced balance sheet value of so-called ‘stranded assets. These are future extractions of existing oil and gas deposits that will not be able to be used without precipitating a total climate collapse. Carbon tracker has estimated that this will result in the price of oil dropping below the marginal price of production by 2050, making it unviable and significantly downgrading the value of petrochemical stocks today. Positive – integrated- green finance typically invests in companies that provide green technology, such as solar or carbon capture technologies to address the climate crisis. Green investments also focus on companies working on environmentally sustainable management of natural resources, biodiversity conservation, renewable energy, energy efficiency, the circular economy, clean transportation, and pollution prevention and control.

- **Social (Impact Investment) Finance**

Social finance provides start-up or growth capital into innovative enterprises that address a social market failure in the provision of welfare in sectors such as health, education, and employment (positive/integrated) or divests from companies that increase inequality of perpetuate social welfare failures (negative/exclusionary). As a result, finance deployed intentionally for social impact is sui generis positive social finance. In this context, over the past 20 years, a new model of positive social finance has emerged: impact investment. The Global Impact Investing Network (GIIN), 40 a not-for-profit organization dedicated to building the infrastructure of the field via convening and research, defined impact investment as: Impact investments are investments made with the intention to generate positive, measurable social and environmental impact alongside a financial return: Impact investment optimizes risk return and impact to benefit people and the planet. It does so by setting specific social and environmental objectives alongside financial ones and measuring their achievement. The emphasis in both definitions on measurement as an integral element of the impact investment model further confirms it as positive social finance that deploys capital to address social issues directly. A more recent innovation in social finance has been the emergence of social bonds. Social bonds are any type of bond where the

proceeds will be used exclusively to finance (or refinance) projects focused on water infrastructure, health or education sectors, affordable housing, work integration, food.

- **Governance (Stakeholder) Finance**

Governance finance - which is sometimes elided with environmental or social finance - is distinctive in that it focuses on stakeholder finance that invests in companies that adhere to international standards of employee welfare (such as those set by the International Labor Organization), or that have a strategic aim to incorporate elements of purpose⁴⁴ into their governance structures for example, by establishing employee representation on the management board (positive/integrated) or divests from those that do not (negative/exclusionary). Governance finance relates to the effects of investment on a range of key stakeholders around the firm. In this regard, it has many overlaps with the impact objectives of green and social finance, both negative and positive. These also link to issues around stakeholder finance that have been conceptualized in terms of a wider set of debates around corporate “purpose”. However, the most distinctive features of positive stakeholder finance relate to organizational ownership and forms of legal incorporation. In terms of stakeholder ownership, cooperative and mutual finance represent a significant driver of stakeholder impact. This is a product of investment into an organizational structure, based upon equal membership, that is designed to address market failures or pattern of monopsony in markets. Cooperatives and mutual organizations play a key role in several impact sectors, including housing, agriculture, health, work integration, insurance, and banking. Many of these sectors are substantial.

7.12 The Spectrum of Sustainable Finance: Returns

- **Positive/Integrated Environmental, Social, Governance Finance: Returns** In terms of returns on investment, a key feature of the spectrum of sustainable finance is that it includes finance with a wide range of return expectations. At one extreme, grants expect a zero return and, on the other, negative/exclusionary ESG funds can achieve above market returns. However, with the exception of the GIIN data on the two forms of impact investing (impact first and finance first), there are no consolidated data sets for the returns of other types of capital in the spectrum. As such, the returns presented here have been estimated from available sources and should be seen as indicative.

- **Grants and Program Related Investment** As 100% loss finance, grants play an important role both as start-up risk capital and as concessionary sustainable finance within blended finance structures and deals. The returns to PRI may vary between loss-making to market rate returns (more typical in the US) under the conditions that were noted above.

- **Impact Investment**, in terms of impact investment returns, the GIIN 2020 survey separated out the investment data into either “developed market” or “emerging market” categories, and then by type of finance (as annualized, realized, and gross returns). In developed markets, the average actual return with an expected market rate return was 16% from private equity, 13% from real assets, and 8% from private debt. In emerging markets, the average actual return with an expected market rate return was 18% from private equity, 10% from private debt, and 8% from real assets. While these returns look broadly in line with the typical market rate returns on mainstream private equity⁸⁴ and private debt, important empirical questions remain concerning whether these returns are properly risk adjusted, given the typically non-financialized impact risk variable in the overall capital structure.

- **Mission-Related Investment** MRIs typically seek market returns. ⁸⁷ However, against this assumption and aside from PRIs, KL Felicitas Foundation’s overall endowment returned only 2.75% per annum as MRI. This could be seen as indicative of a lower threshold for MRI returns.

- Development Finance. Generally, aside from direct grants, development finance seeks a market return. Development finance returns can be estimated from some of the larger players in the market.
- Green and Social Bonds The data on the pricing of green bonds remains mixed. But some analysis suggests that the pricing does not typically reflect any sort of risk premium. As such, returns are typically close to conventional bonds which have been between zero and 2% over the past 5 years.

Summary

Sustainable finance deals with the requirement to finance the transition towards a sustainable socioeconomic pathway. To close the financing gap, unprecedented investments are required. The financial sector plays an important role in mobilising and channelling these financial resources, thereby “shifting the trillions” of existing financial assets towards low-carbon, sustainable and resilient investments. Increasingly, asset owners, investment managers and banks consider this transition as a business opportunity and align their investment and financing strategy accordingly.

Discussion Questions

1. Why sustainable finance is important?
2. What is the goals of ESG Investing?
3. How financial performance can influence financial sustainability?
4. What factors that influence companies to make financial sustainability reports?
5. Why Sustainability Accounting and Sustainability Reports mandatory for all companies in your country?

Suggested reading

- Agnieszka Bem & Karolina Daszyńska-Żygadło & Taťána Hajdíková & Péter Juhász (ed.), 2018. "**Finance and Sustainability**," *Springer Proceedings in Business and Economics*, Springer, number 978-3-319-92228-7, June.
- Bakken, R.(2021). ‘What Is Sustainable Finance and WHarvard University Blog. <https://extension.harvard.edu/sustainable-finance-and-why-is-it-important/>.
- Chaubey, D. D. Bosch, R. Muñoz-Carpena, R. Daren Harmel, Kyle R. Douglas-Mankin, A. P. Nejadhashemi, P. Srivastava, A. Shirmohammadi (2016). Climate change: A call for adaptation and mitigation strategies. *Transactions*.
- Gerster, R. (2011). ‘Sustainable Finance: Achievements, Challenges, Outlook.’ http://www.gersterconsulting.ch/docs/Sustainable_finance_final_11.02.10.pdf.
<https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Sustainable-Finance-High-Level-Definitions-May-2020-051020.pdf>
- International Capital Market Association.(2020.)‘Sustainable Finance HighLevel Definitions.’ Zürich: International Capital Market Association.
- Jeucken, M. (2010). Sustainable Finance and Banking: The Financial Sector and the Future of the Planet. London: Routledge
- Migliorelli, M.(2021). ‘What Do We Mean by Sustainable Finance? Assessing Existing Frameworks and Policy Risks.’ *Sustainability* 13 (2): 975.
- Ozili, P. K. (2021). ‘Making Sustainable Finance Sustainable.’ *Financial Internet Quarterly* 17 (3): 64–70.

- Ryszawska, B. (2016). 'Sustainability Transition Needs Sustainable Finance.' *Copernican Journal of Finance & Accounting* 5 (1): 185–94.
- Sommer, S. 2020. 'Sustainable Finance: An Overview.' Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Bonn, and Eschborn GIZ Agência Brasília SCN, Brasília.
- Sommer, S.(2020). 'Sustainable Finance: An Overview.' Deutsche Gesellschaft für Internationale Zusammenarbeit (gi z) GmbH, Bonn; Eschborngiz Agência Brasília scn, Brasília.
- Thierry Roncalli (2023). *Handbook of Sustainable Finance*. Creative Commons Attribution.
- UNEP. 2017. 'Roadmap to Sustainable Financial System.' United Nations Environment Programme (UNEP) Working Paper.
- Wilson, C. 2010. 'Why should sustainable finance be given priority? Lessons from pollution and biodiversity degradation.' *Accounting Research Journal* 23 (3): 267-280.

CHAPTER 8: CLIMATE CHANGE MITIGATION AND ADAPTATION MANAGEMENT

Climate change poses a formidable challenge to humanity in the 21st century, marked by global ramifications and negative consequences to which no global region is already immune. According to the United Nations (UN), climate change refers to long-term shifts in temperatures and weather patterns. This term has been also defined as:

“A change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer.” (Field, 2012)

The origin of climate change could stem from inherent natural processes, external influences or sustained alterations induced by human activities in atmospheric composition or land utilisation. Their consequences are currently more evident than ever, with observable increases in global average temperatures, alterations in precipitation patterns, rising sea levels and shifts in extreme weather events, among many others. For some of them, there seems to be no turning back, and for many others, we are in the final moments to reverse them. To achieve this, we must start by finding out more about the forces driving climate change and their negative effects.

Several forces may drive climate change. The driving force behind climate change originates from the natural system itself. On one hand, the radiation emitted by the sun, which propagates in all directions through space via electromagnetic waves, heating up the planet. If the albedo effect occurs, it would cause solar radiation not to be reflected by the Earth's surface but absorbed by it, thereby leading to its warming. On the other hand, volcanic eruptions emit large amounts of dust, ash, aerosols, and sulphur dioxide into the upper atmosphere, known as the stratosphere, in gaseous form. The ashes swiftly dissipate from the stratosphere within a few days to several weeks, causing minimal influence on climate variations. However, volcanic gases like sulphur dioxide contribute to global cooling, whereas volcanic carbon dioxide intensifies the global warming effect.

But since the expansion of the first industrial revolution, the primary driver or cause of climate change are anthropogenic, stemming from human activities such as burning fossil fuels, polluting discharges, deforestation, industrial processes and intensive activities in agriculture, livestock farming and fishing. Among these human actions, the emission of greenhouse gases (GHG) is the main cause of the phenomenon of planetary warming, which has resulted in a global surface temperature increase of 1.1°C above the 1850-1900 baseline during the period 2011-2020. The escalation of global greenhouse gas emissions continues, marked by disparate historical and ongoing contributions stemming from unsustainable energy utilisation, modifications in land use as well as lifestyle and consumption patterns. These factors exhibit variations across regions, within and among countries and among individual actors, although their consequences extend universally affecting every corner of the globe.

Accordingly, the world's climate must be viewed as an intricate system. This implies that a negative effect in one part can result in ripple effects worldwide. For instance, the melting of polar ice caps due to escalating global temperatures induces a rise in sea levels (See Figure 8.1), thereby posing threats to coastal communities through increased flooding and erosion. This is not a distant threat but a reality that is currently unfolding, with some small island nations facing the potential of becoming uninhabitable.



Figure 8. 1 Melting of ice caps due to global warming

Therefore, managing climate change requires effectively urgent and collaborative action on two fronts: mitigation and adaptation. The concepts are described below:

- **Mitigation** refers to the development of concrete interventions aimed at reducing emission and concentration of polluting gases in the atmosphere. For instance, a mitigation intervention aimed at promoting the adoption of sustainable transportation modes might decrease the accumulation of greenhouse gases in the atmosphere, thereby alleviating climate change.

- **Adaptation** refers to the development of concrete interventions aimed at enhancing the resilience of human and natural systems against the adverse impacts caused by climate change. Consequently, these initiatives seek to enable human and natural systems to rapidly and sustainably respond, adapt, and recover from any negative effects of human-induced climate change on water availability, food production, health and well-being, biodiversity, ecosystems, cities, settlements and infrastructure. For instance, the construction of sustainable infrastructures aimed at serving as barriers to prevent severe inland flooding.

To sum up, climate change has emerged as one of the most pressing issues of our time, with far-reaching implications for our planet and future. Despite the immense challenges, significant opportunities exist. Implementing decisive mitigation and adaptation interventions enables us to alleviate the worst effects of climate change and build a more sustainable and resilient future for all. In the rest of the chapter, we will gain a better understanding on climate change management and the role of mitigation and adaptation interventions. It can be seen what mitigation and adaptation interventions can be implemented by governments, companies and society at large to manage climate change.

Overview

Chapter 8 addresses the evolution of climate change leading to the climate emergency that the planet is experiencing. An integrated model is presented, facilitating its management through the intervention of businesses, governments, and citizens. Climate change management requires the development of mitigation and adaptation actions. These interventions are thoroughly studied throughout the chapter to learn how to implement them synergistically.

8.1 Managing Climate Change with Mitigation and Adaptation

1. Evolution of climate change

Understanding Earth's climatic history is crucial to contextualise the observed changes in today's climate. This will lay the groundwork for the management model needed to address the current period of

climate change we are experiencing, implementing measures to mitigate its adverse effects, adapt, and become more resilient to the current changing environment.

The ongoing phenomenon of climate change on our planet is not the sole occurrence. Earth and its ecosystems, as known presently, are the result of millions of years of climatic fluctuations. On one hand, there have been periods of global warming when temperatures exceeded the average. Such is the case of the mediaeval warm period that occurred between the 10th and 14th centuries in various regions of the planet. On the other hand, there have been periods of global cooling when temperatures were below average. Such is the case of the Little Ice Age that occurred between the 14th and 19th centuries in diverse regions of the planet. The geological record even highlights that millions of years ago, there were alternating periods of cooling, known as ice ages, during which glaciers expanded, followed by warming periods that caused their melting. Additionally, extreme climatic phenomena have occurred unusually in specific areas. Figures 8.2, 8.3 and 8.4 depict some examples of extreme weather phenomena.



Figure 8. 2 Intense electrical storm



Figure 8. 3 Drought



Figure 8. 4 Extreme Floods

The onset of today's climate change affecting humanity is derived from human activity, and therefore is known as anthropogenic climate change. It was originated with the first industrial revolution in the United Kingdom during the 18th century. The industrial revolution facilitated the transition from manual productive activities to machinery-based industrial production. Initially, machinery powered by steam evolved gradually to those reliant on fossil fuels such as coal, oil, or gas. The industrial revolution's expansion to other countries, along with advancements in transportation based on technological

developments, began to release substantial amounts of polluting gases due to human activity, thereby contributing to climate change. Since then, the well-known second, third, and fourth industrial revolutions have occurred, accelerating climate change. Other activities such as deforestation to enable the expansion of agricultural, livestock, industrial, or service sector activities, urban expansion, changes in habits and consumption, or environmental accidents caused by human activity, have also significantly contributed to the anthropogenic climate change that is occurring. That is why expediting climate change management should focus on actions that mitigate the negative effects on the climate resulting from human activity, while simultaneously enabling adaptation to those that are already irreversible.

2. An integrated model for managing climate change.

Climate change management is not a trivial matter because of it requires consideration of the multiple scenarios that occur within it, as well as the cause-and-effect relationships that drive its progression. It is within these cause-and-effect relationships that transitions from one scenario to another occur, where interventions for mitigating and adapting to climate change must be developed. Figure 8.5 shows an integrated model for climate change management in more effective ways.

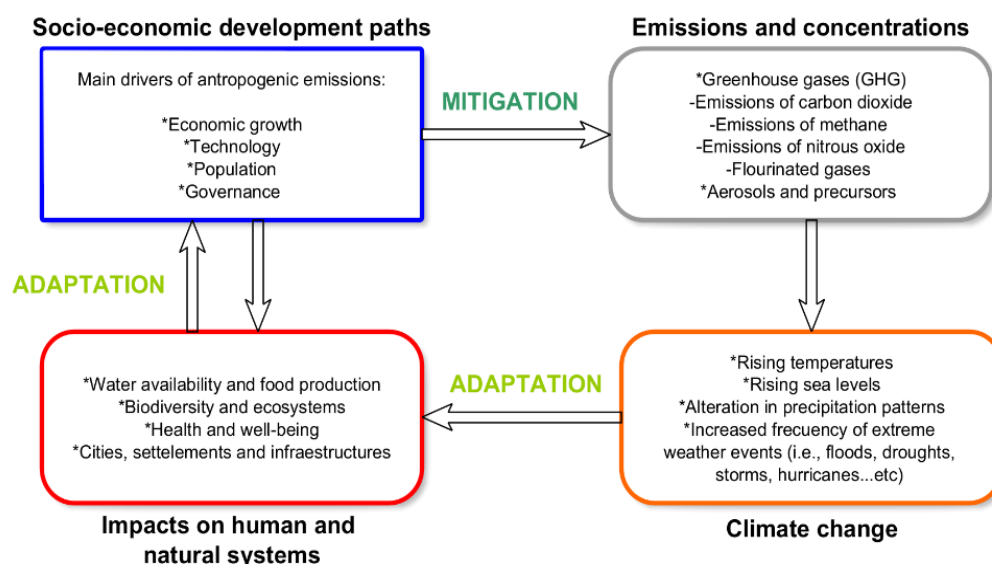


Figure 8. 5 Integrated model for managing climate change

Scenario 1: Socio-economic development paths

The anthropogenic climate changes our planet is facing is primarily caused by human-driven productive activities aimed at advancing economic and social spheres. Hence, the starting point in the integrative model (Figure 8.5) occurs in the socio-economic development paths scenario (blue box). Progress along these socio-economic development paths has seen the convergence of four driving forces as the primary contributors to the emission of pollutants into the atmosphere.

- The economic growth that has occurred since the first industrial revolution, especially in the 20th century, has been primarily driven by industrialised countries in the European Union, the United States, Canada, and Japan. However, in recent decades, other countries such as Brazil and India, and notably China, have also joined this trajectory. The latter currently competes with the United States to become the primary driving force in global economic development. The vigorous activity in the global economy has led to an exponential increase in production, demanding intensive use of energy and limited resources. This transformation has resulted in the emission of pollutants, discharge, and waste, with negative consequences for the ecosystem.

- The governments have played a very significant role in emissions of gases. These entities have prioritised achieving greater economic growth, which translated into increases in the country's gross

domestic product (GDP), while underestimating the environmental impact of the productive activities enabling this growth. Consequently, on many occasions, policies and regulations regarding the effects of business economic activities on climate change have been quite lenient. This situation has started to reverse in recent decades with the establishment of punitive regulations against entities emitting pollutant gases and the adherence to international agreements combating climate change. The most recent of these international conferences occurred after the United Nations Climate Change Conference (COP26) held in Glasgow in 2021, which highlighted the insufficient reduction in greenhouse gas emissions as well as the assistance provided to the most affected regions. Consequently, the need to develop mitigation and adaptation measures (i.e., phasing out the use of fossil fuels) was emphasised for a critical decade, targeting 2030 as the horizon.

- The population has also acted as a source of pollutant gas emissions. Its considerable increase over recent centuries has necessitated a rise in food production and other goods, thereby favouring the expansion of productive locations, leading to deforestation and the emission of gases resulting from these productive activities. Additionally, it is important to note that productive activities have primarily occurred in urban areas, resulting in the migration of populations from rural regions. The expansion of cities has also facilitated deforestation, ecosystem destruction and the emission of harmful gases detrimental to the climate.

- The technology applied in production processes also has a significant impact on greenhouse gas emissions into the atmosphere. Machinery, devices and other equipment have been primarily developed to increase the efficiency and productivity of manufacturing activities across various economic sectors without considering their effects on the climate. Consequently, they mainly relied on the use of fossil fuels for operations, resulting in the generation of greenhouse gases.

Scenario 2: Emissions and concentrations

The scenario emissions and concentrations is a consequence of the actions taken in the socio-economic development paths scenario, and it is within this causal relationship that mitigation interventions are focused. Therefore, both scenarios are linked by an arrow originating from socio-economic development paths scenario, representing it the cause in this cause-and-effect relationship. Because of the impacts stemming from advancements in socio-economic development paths, billions of tons of emissions and concentrations of harmful gases have been generated in the atmosphere, as depicted in Emissions and concentrations scenario (grey oval). These gases are known for the greenhouse effect they produce, contributing to global warming by concentrating in the atmosphere, trapping heat, and preventing solar radiation from escaping into space:

- Carbon dioxide (CO₂) is one of the most common gases in the greenhouse effect. It is produced through animal respiration, while being absorbed by plants for photosynthesis. Reforestation stands as one of the primary methods for its removal. This gas is also generated through the burning of fossil fuels for energy generation and transportation. Additionally, it is one of the causes of ocean acidification, seriously endangering their ecosystems.

- Methane (CH₄) is primarily emitted through primary activities such as agriculture, livestock farming, organic material decomposition, and other land uses. It is also generated during the production and transportation of coal, natural gas, and petroleum.

- Nitrous oxide (NO₂) is mainly emitted through wood burning, chemical transformation processes, fertiliser use, wastewater treatment, and combustion of fossil fuels.

- Fluorinated gases are solely generated through human activity, particularly as substitutes for other ozone-depleting gases. They are also produced in various industrial activities like semiconductor manufacturing and aluminium production. These gases are the most dangerous due to their highly persistent and potent effects in the atmosphere.

Emissions and concentration scenario, which entails increased emissions and consequently the concentration of greenhouse gases, aerosols, and precursors in the atmosphere, is the consequence or negative effect derived from the socio-economic development paths scenario. Climate change management based on mitigation will must focus on developing interventions to reduce the pollutant gases emitted through the socio-economic development paths.

Scenario 3: Climate change

The climate change is a result of emissions and concentrations of polluting gases. Hence, there exists a cause-and-effect relationship between these two scenarios. This is why the model includes an arrow originating from the emissions and concentrations scenario and directed towards the climate change scenario. More specifically, the emissions and concentrations, negatively altering the atmosphere's composition, are driving the current anthropogenic climate change, the scenario depicted in the model represented by the orange oval. Several are the most visible consequences resulting from climate change:

- Considerable rise in temperatures across the planet. In 2022, the average temperature in Asia surged above the global average, according to the World Meteorological Organization's report. There is also a long-term warming trend, doubling between the periods of 1991-2022 compared to 1961-1990.
- Concerning sea-level rise, as per the World Meteorological Organization's report, Asia maintained a sustained increase of 4.6mm/year during the period 2013-2022. This elevation is due to polar ice melting and the warming experienced by the oceans.
- Alterations in precipitation patterns, indicating atypical changes in the frequency and intensity of rainfall. According to the World Meteorological Organization's report, in 2022, there were recorded below-average precipitation levels in Eastern and Northeastern Asia and in the northern zone of the Arabian Sea compared to the 1991-2020 period. Anomalies in precipitation were also detected in certain parts of Iran, Iraq, and Pakistan.
- An increase in the occurrence of extreme weather events such as typhoons, hurricanes, floods, prolonged droughts...etc. The World Meteorological Organization's report states that in 2022, Asia experienced 81 weather, climate, and water-related disasters, of which more than 83% were floods and storms. As a result, over 5,000 lives were lost, more than 50 million people were directly affected, and the economic damages amounted to over 36 billion dollars.

Focusing on the cause-and-effect relationship between the emissions and concentrations scenario and the climate change scenario, no interventions have been developed for mitigation or adaptation. Mitigation interventions concentrate on addressing the cause of emissions and concentrations to reduce or alleviate them as much as possible, stemming from the path of socio-economic development scenario. Moreover, adaptation interventions aim to respond, adjust, recover, and make more resilient human and natural systems against the effects of climate change. Hence, it will not be possible to mitigate or adapt to the effect of emissions and concentrations on climate alterations through climate change management.

Scenario 4: Impacts on human and natural systems

The climate change scenario generates negative impacts on the human and natural systems scenario, and it is within this causal relationship that adaptation interventions can be adopted. Thus, both scenarios are linked by an arrow originating from the climate change scenario, representing the cause in this cause-and-effect relationship. The impacts on human and natural system scenario are the consequence or negative effect derived from climate change. Climate change management based on adaptation will focus on developing interventions to respond, adapt, and recover from any negative effects of human-induced climate change on water availability, food production, health and well-being, biodiversity, ecosystems, cities, settlements and infrastructure. The negative effects stemming from human-caused climate change are poised to intensify. The observed widespread and substantial impacts, coupled with related losses and damages, are unequivocally attributed to climate change. Figure 8.6 brings together the negative effects of human-induced climate change.

The adverse impacts of climate change induced by human activities on biodiversity and ecosystems are becoming increasingly evident across terrestrial, freshwater, and oceanic environments. Within terrestrial ecosystems, alterations in temperature and precipitation disrupt the equilibrium of natural habitats, thereby influencing the distribution and behaviour of various plant and animal species. Freshwater ecosystems encounter challenges such as changes in flow patterns, shifts in temperature and the aggravation of water scarcity, all of which have repercussions on aquatic biodiversity. Oceanic ecosystems, affected by the escalation of sea temperatures and ocean acidification, observe transformations in the distribution and composition of marine species, thereby influencing entire food chains. The pressing necessity for comprehensive global endeavours to alleviate climate change and introduce adaptive measures to preserve the intricate equilibrium of our planet's diverse habitats is underscored by these deleterious impacts on biodiversity and ecosystems. These consequences underscore the urgent need for comprehensive and coordinated efforts to adapt to the changing climate, safeguarding the health and resilience of diverse ecosystems.

The negative effects of climate change are also increasingly evident in various facets of water availability and food production. This is manifested in the physical water availability, impacting the quantity and distribution of water resources. Moreover, animal health and livestock productivity are compromised as changing climate conditions pose challenges to their well-being and reproduction. Agriculture production faces disruptions due to altered precipitation patterns and extreme weather events, affecting crop yields and food supply chains. Furthermore, fisheries and aquaculture production experience adverse impacts, with shifts in ocean temperatures and ecosystems influencing the abundance and distribution of marine species, thereby challenging food security. Addressing these interconnected challenges requires comprehensive strategies that integrate adaptation interventions to build resilience in water and food systems.

The ramifications of climate change extend to urban environments, human settlements, and infrastructure, encompassing damages to critical infrastructure, coastal flood and storm impacts, disruptions in key economic sectors and inland flooding. These effects also highlight the urgent need for global initiatives focused on implementing adaptive interventions to fortify the resilience of cities, settlements, and vital infrastructure worldwide.

It can be also observed negative impacts on health and well-being with a notable rise in infectious diseases, exemplified by events such as the surge in cases akin to COVID-19. Mental health concerns escalate as communities grapple with the compounding stressors of climate-related events. The intensification of heatwaves contributes to health issues, including heat-related illnesses. Concurrently, there is a growing concern about malnutrition due to disruptions in food production systems. The heightened frequency and severity of wildfires not only pose direct threats but also lead to displacement, disrupting communities and exacerbating health challenges. Addressing these interconnected issues necessitates comprehensive interventions that integrate health and climate resilience efforts.

Finally, a bidirectional relationship between the impacts on human and natural systems scenario and the socioeconomic development paths scenario can be observed. The adverse alterations of climate change on human and natural systems also influence the path of socio-economic development, thus closing the cycle on climate change management based on mitigation and adaptation interventions. Furthermore, adaptation interventions may also arise not directly from climate change itself but from the adoption of alternative socio-economic development paths by governments, businesses, and society at large. This cause-and-effect relationship is represented by the directed arrow, flowing the socioeconomic development paths scenario to the impacts on human and natural systems scenario.



Figure 8. 6 Negative effects of human-induced climate change

8.2 Mitigation and adaptation interventions against climate change

1. Characteristics of mitigation and adaptation interventions

Mitigation and adaptation interventions to climate change represent the primary tools available to governmental institutions, companies, and citizens in addressing the anthropogenic climate change we are experiencing. Within the integrated model for climate change management discussed in the previous section (see Figure 8.5), it is evident that mitigation and adaptation interventions play significantly different roles. Table 3 summarises the key aspects characterising these interventions within the context of climate change management.

Effective climate change management should focus on addressing the cycle generated by causal relationships among various scenarios stemming from socio-economic development paths. To ensure the most effective and efficient management, it is crucial to first determine where mitigation and adaptation interventions should be focused. Mitigation interventions focus on the root cause of climate change, aiming to alleviate the adverse effects generated by socio-economic development paths. These interventions are designed to minimise emissions and concentrations of harmful gases produced in the atmosphere, which are the primary precursors of climate change. Thus, mitigation interventions help prevent the negative effects of climate damage by altering the entire cycle comprehensively. Their implementation involves governmental institutions, companies and the citizens.

Adaptation interventions focus on the adverse effects of anthropogenic climate change on natural and human systems. These interventions are developed to rapidly and sustainably respond to the negative impacts of climate change so that adapting and restoring, to the extent possible, the natural and human systems that are being harmed. Adaptation interventions go further by attempting to adapt natural and human systems to the negative impacts directly caused by socio-economic development paths unrelated to climate change. For example, the intensive use of water in agro-industrial production processes negatively affects freshwater ecosystem reserves. Through the development of adaptation interventions aimed at efficiently managing water, sustainable adaptation of production processes is achieved to minimise freshwater consumption. This intervention can also gradually restore freshwater ecosystems that have significantly declined in recent decades. Both governmental institutions, companies and the citizens can participate in the development of adaptation interventions.

The development of adaptation interventions promotes the resilience of human and natural systems against climate change and other negative impacts caused by socio-economic development paths. However, adaptation interventions do not prevent the adverse effects of climate change. Prevention function can be only carried out by mitigation interventions. Therefore, both mitigation and adaptation interventions must be developed to manage the entire cycle of climate change. It is even possible to observe that certain interventions can be developed to both mitigate and adapt natural and human systems at the same time. For example, interventions aimed at facilitating the transition from the use of fossil fuel energy to the use of renewable energy. These interventions are designed to mitigate greenhouse gas emissions while adapting socio-economic development paths to minimise their negative impacts on human and natural systems. Therefore, the development of such synergistic mitigation and adaptation interventions that manage the complete cycle of climate change should be encouraged by government institutions, companies and citizens.

Table 8. 1 An overview of mitigation and adaptation interventions

	Mitigation intervention	Adaptation intervention
Focus	Cause	Effects
Goal	To minimise the negative effects generated by socio-economic development paths.	To rapidly and sustainably respond, adapt, and recover from any negative effects of human-induced climate change.
Driving forces and participants	Government institutions, companies and/or citizens.	Government institutions, companies and/or citizens.
Examples	<ol style="list-style-type: none"> 1. Promotion of sustainable agricultural, livestock, and fisheries practices. 2. Adoption of sustainable practices in any sector. 3. Adoption of productive models based on circular economy. 4. Relocation of companies 5. Transition toward the use of renewable energy sources. 6. Adoption of sustainable transportation modes. 7. Development of innovative, clean and sustainable technologies and production processes. 8. Promote environmental education. 9. Commitment with net-zero neutrality. 10. Collaboration and alliance. 11. Low-intensity land use and reforestation. 12. Policy and regulatory framework. 	<ol style="list-style-type: none"> 1. Adoption of climate-adaptive practices in agriculture, livestock farming and fishing. 2. Development of innovative technologies to adapt business activities to climate change. 3. Transition toward the use of renewable energy sources. 4. Efficient water management. 5. Relocation of companies 6. Diversification of supply sources. 7. Diversification of new products and services adapted to climate change and contributing to climate resilience. 8. Financial risk management associated with climate impacts. 9. Collaborative initiatives to enhance climate resilience. 10. Climate risk assessment. 11. Construction of resilient infrastructures against extreme climate events. 12. Urban adaptations to climate change. 13. Ecosystem restoration. 14. Development of contingency plans against extreme climate risks. 15. Development of disaster management plan. 16. Extreme weather event alert systems. 17. Promote education and training in adaptation of human and environmental systems to climate change. 18. Resilient government plans for climate adaptation of human and natural systems.

2. Mitigation interventions developed by companies

There are numerous mitigation interventions that can be implemented by companies in climate change management. In this section, we will review some of the most relevant interventions that can be developed to mitigate emissions of harmful gases into the atmosphere.

The promotion of sustainable agricultural, livestock, and fisheries practices stands as pivotal in the fight against climate change. Implementing sustainable agricultural techniques such as crop rotation, the use of non-polluting fertilisers, agroforestry, and organic farming significantly reduces greenhouse gas emissions. Livestock activities also need transformation by introducing practices such as rotational grazing, which involves rotating the grazing areas for livestock to minimise methane emissions. Additionally, reviewing livestock diets can reduce methane emissions. Technologies are being developed to capture methane emissions from animals and convert them into energy sources for livestock facilities. Fishing activities should also undergo transformation by replacing fishing vessels reliant on fossil fuels with those requiring biofuels derived from renewable sources. Establishing regulatory standards that require fleets to specialise in covering the nearest fishing grounds could be another highly effective mitigation intervention for the fishing sector. Firms are currently transforming their business processes to make them more environmentally sustainable regardless of the sector they operate in. It is important to note that numerous firms worldwide have adopted lean manufacturing strategies to maximise business efficiency. Hence, they have had to embrace 'pull' practices under just-in-time (JIT) systems, producing only what is necessary to fulfil customer orders. Consequently, firms have considerably reduced batch sizes while increasing the volume of orders for raw materials, materials and components. As a result of the increased orders that need to be transported, emissions of harmful gases into the atmosphere may rise significantly as well. For this reason, interventions need to be developed to mitigate the emission of these gases, based on for example selecting nearby suppliers clearly committed to environmental sustainability. Additionally, there should be a preference for hiring logistics agents whose fleets are powered by renewable sources such as hydrogen, liquefied natural gas or other biofuels.

Many firms are taking a step further by transforming their production models from linear to circular. This transformative process involves developing circular practices in design, production, quality control, distribution and reverse logistics, undertaken by the firms themselves in collaboration with their suppliers and clients. These circular models are based on designing new sustainable products manufactured for long-term use with biodegradable, recyclable or reusable materials within the closed-loop production systems. Hence, the adoption of circular production models as a mitigation intervention will aid in reducing emissions of harmful gases linked to reduced requirements for raw material extraction, transformation, and logistical activities. In the past decades, there has been an explosion in the complete or partial outsourcing of manufacturing processes to providers located in other countries with significantly lower production costs than those of the purchasing companies. This is known as an offshoring strategy. The consequence has been an increase in the globalisation of their supply chains. As a result, the transportation activity of raw material, components and goods has grown exponentially, leading to a rise in greenhouse gas emissions into the atmosphere. Therefore, a critical mitigation intervention involves relocating production processes to the countries where companies are situated or reshoring strategy. The adoption of this reshoring strategy is being carried out particularly strongly following the COVID-19 pandemic, which highlighted the vulnerability of global supply chains due to the development of offshoring strategies.

The cornerstone of mitigation interventions developed by companies lies in their transition to using robust renewable or clean energy sources instead of fossil fuels. This is why there is a drive to promote research, development, and implementation of sustainable processes, technologies, machinery, and devices that minimise the emission of harmful gases into the atmosphere. Internally, these radical changes in production processes must be accompanied by appropriate environmental education and training for company workers, not only in carrying out their tasks but also in empowering them to make

more autonomous decisions to improve the company's sustainability. It is important to note that a significant percentage of harmful gas emissions are derived from logistics activities. Therefore, mitigation interventions need to be developed by utilising modes of transportation that do not emit greenhouse gases. In this regard, collaboration and alliances with suppliers, customers, and even competitors can be a critical success factor.

Nowadays, unfortunately there exist companies whose business activities do not allow them to entirely cease emitting greenhouse gases. These companies must go further by committing internally to net-zero neutrality. This involves developing indirect mitigation interventions that offset the harmful gases emitted into the atmosphere. Examples of such interventions include investments in reforestation environmental ecosystems or implementing carbon capture systems.

3. Adaptation interventions developed by companies

Once the negative effects of anthropogenic climate change have occurred, companies can undertake multiple interventions to strengthen the resilience of both natural and human systems against the inevitable impacts of climate change. This resilience is achieved when businesses can respond promptly to the adverse effects of climate change, adapting to them and even progressing in the restoration of affected human and natural systems. In this way, multiple adaptation interventions can be carried out by companies.

Agricultural, livestock, and fishing activities are highly susceptible to the adverse effects of climate change, thus requiring strategically planned adaptation interventions to make their operations resilient to climatic disruptions. In agriculture, the adoption of water-stress-resistant cultivation techniques is becoming more prevalent. By doing so, crops become more resilient to both floods and prolonged periods of drought. Moreover, significant technological advancements are facilitating the installation of systems that enhance efficient water management. It is essential to note that agricultural activities themselves can have a negative impact on human and natural systems. For instance, intensive fertiliser use can disrupt the natural ecosystem, affecting animal and plant species, degrading soil quality and polluting aquifer water. Hence, adaptation interventions should be developed to encourage the use of organic, bio-stimulant or microbial fertilisers without adverse effects on human and natural systems. In the realm of livestock farming, rotational grazing methods should be employed to enhance the ecosystem, alongside the selection of breeds more resilient to extreme climatic changes. This activity generates waste that, if left untreated, can cause severe damage to the natural ecosystem, necessitating the implementation of systems that transform these wastes into sources of energy for the livestock operation itself. Additionally, fishing activities can contribute to combating climate change. Fishing fleets can adopt technological systems that enable them to account for ocean warming when determining sustainable catch methods.

Firms, regardless of the sector they operate in, can research, develop, and implement innovative technologies to adapt their business processes to climate change. These innovative technologies should support the companies' energy transition in a way that enables all their business activities to be conducted using renewable or clean energy sources. In this regard, the installation of solar or geothermal energy generation systems allows for maintaining suitable temperatures within facilities despite extreme weather conditions outside. Moreover, technological systems should be implemented to facilitate efficient management of the entire water cycle, preventing leaks, optimising water conservation and treating wastewater for reuse or to prevent adverse effects on human and natural systems.

Companies are increasingly investing in replacing their outdated machinery with systems, equipment and devices that maximise energy efficiency in business processes. Furthermore, they are adopting technological innovations to optimise transportation routes through sustainable means of transport. It should be noted that the adoption of these innovative technological advancements must be progressively implemented due to the substantial investment they require, along with other risks such as

employee resistance to change if not adequately supported by top managers or accompanied by suitable training programs.

Climate changes expose businesses to increasingly impactful weather disruptions. Therefore, adaptation interventions require to be taken on various fronts. Firstly, contingency plans against extreme weather risks must be developed. These plans require prior identification, analysis, and assessment of potential weather-related risks the company might face. Once the most critical risks are identified, specific actions will be established to mitigate their effects should they occur. These plans should consider the financial risks associated with adverse weather events, for which specific insurances should be acquired to reduce them, along with establishing financing mechanisms to ensure the company's survival. Relocating the company's facilities from high or extreme risk areas of adverse weather events should also be considered. This proactive adaptation intervention must be complemented with the development of disaster management plans in case weather disruptions occur. For proper management, the companies have to implement alert systems for extreme weather events such as tsunamis, earthquakes, hurricanes, typhoons, thunderstorms....etc.

Companies can also develop a diversification strategy in adapting to climate change from various perspectives. Firstly, they can diversify their sourcing to substitute any affected supplier due to adverse weather events. Secondly, they can diversify their product and service portfolio, gradually replacing those less resilient to negative climate change effects with more climate change-resistant options.

Summary

Humanity has historically been subjected to climate changes with effects on natural and human systems. Currently, we are facing anthropogenic climate change, derived from human action, which began with the establishment of new paths of socio-economic development during the first industrial revolution in the United Kingdom. Economic growth, governments, population and technology act as driving forces in a closed-loop cycle that can be halted through integrated management through the adoption of both mitigation and adaptation interventions. On one hand, mitigation interventions focus on minimising emissions of harmful gases concentrated in the atmosphere to prevent climate change. On the other hand, adaptation interventions focus on efficiently and sustainably responding and adapting to the negative effects caused by anthropogenic climate change on human and natural systems. Their negative effects are observed in reduced water availability and food production, alteration or even destruction of ecosystems and animal and plant biodiversity, worsening health and quality of life, as well as damage to cities, settlements and infrastructure. The adaptation interventions do not prevent climate change but enhance resilience against adverse climate disruptions that may occur. Therefore, it is a necessary condition for successfully managing climate change to carry out both mitigation and adaptation interventions. Furthermore, synergistic interventions that combine mitigation and adaptation measures can be carried out to stop and reverse the adverse impacts of climate change. In order to achieve this aim, it will be essential to actively engage governments, businesses, and citizens in ecosystem restoration, the development of resilience plans for adapting human and natural systems to climate change and the promotion of education and learning in environmental care, among many other possible interventions.

Discussion question

1. What have been the driving forces behind climate change throughout history? Which ones have predominated in different historical periods?
2. Develop and draw an integrated model for managing climate change specific to the region where you live.

3. Create a list of mitigation and adaptation interventions for managing climate change that should be developed in the region where you live. Specify the priority order for implementation based on their expected positive effects. Which entities (government institutions, companies, and citizens) should be involved in developing each intervention? What actions could be taken to monitor the progress achieved?

4. What role should companies, governments and citizens assume in climate change management? Are there differences between those operating in more developed countries compared to those in less developed countries?

5. Can the development of the Fourth Industrial Revolution through the adoption of Industry 4.0 facilitate climate change management? How do you think it should be incorporated into the integrated climate change model?

Suggested reading

- Carey, M. (2012). Climate and history: a critical review of historical climatology and climate change historiography. *Wiley Interdisciplinary Reviews: Climate Change*, 3(3), 233-249.
- Chaubey, I., Bosch, D. D., Muñoz-Carpena, R., Harmel, R. D., Douglas-Mankin, K. R., Nejadhashemi, A. P., ... & Shirmohammadi, A. (2016). Climate change: A call for adaptation and mitigation strategies. *Transactions of the ASABE*, 59(6), 1709-1713.
- De los Rios, I. C., & Charnley, F. J. (2017). Skills and capabilities for a sustainable and circular economy: The changing role of design. *Journal of cleaner production*, 160, 109-122.
- Mbah, M. F., Shingruf, A., & Molthan-Hill, P. (2022). Policies and practices of climate change education in South Asia: towards a support framework for an impactful climate change adaptation. *Climate Action*, 1(1), 1-18.
- Rojas-Downing, M. M., Nejadhashemi, A. P., Harrigan, T., & Woznicki, S. A. (2017). Climate change and livestock: Impacts, adaptation, and mitigation. *Climate risk management*, 16, 145-163.
- Shaw, R., Pulhin, J.M. and Jacqueline Pereira, J. (Ed.) (2010), "Community, Environment and Disaster Risk Management", *Climate Change Adaptation and Disaster Risk Reduction: An Asian Perspective. Community, Environment and Disaster Risk Management*, Vol. 5, Emerald Group Publishing Limited, Leeds, pp. 1-476. [https://doi.org/10.1108/S2040-7262\(2010\)0000005030](https://doi.org/10.1108/S2040-7262(2010)0000005030)
- Sumi, A., Fukushi, K., & Hiramatsu, A. (2010). *Adaptation and mitigation strategies for climate change*. New York, NY: Springer.
- van Vuuren, D. P., Isaac, M., Kundzewicz, Z. W., Arnell, N., Barker, T., Criqui, P. & Scricciu, S. (2011). The use of scenarios as the basis for combined assessment of climate change mitigation and adaptation. *Global Environmental Change*, 21(2), 575-591.
- VijayaVenkataRaman, S., Iniyan, S., & Goic, R. (2012). A review of climate change, mitigation and adaptation. *Renewable and Sustainable Energy Reviews*, 16(1), 878-897.

CHAPTER 9: CREATING SHARE VALUE (CSV)

Solving social problems has been ceded to governments and to NGOs. Corporate responsibility programs—a reaction to external pressure—have emerged largely to improve firms’ reputations and are treated as a necessary expense. Anything more is seen by many as an irresponsible use of shareholders’ money. Governments, for their part, have often regulated in a way that makes shared value more difficult to achieve. Implicitly, each side has assumed that the other is an obstacle to pursuing its goals and acted accordingly

The concept of shared value, in contrast, recognizes that societal needs, not just conventional economic needs, define markets. It also recognizes that social harms or weaknesses frequently create internal costs for firms—such as wasted energy or raw materials, costly accidents, and the need for remedial training to compensate for inadequacies in education. And addressing societal harms and constraints does not necessarily raise costs for firms, because they can innovate through using new technologies, operating methods, and management approaches—and as a result, increase their productivity and expand their markets. Shared value, then, is not about personal values. Nor is it about “sharing” the value already created by firms—a redistribution approach. Instead, it is about expanding the total pool of economic and social value.

9.1 The Concept of Share Value

The concept of shared value can be defined as policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates. Shared value creation focuses on identifying and expanding the connections between societal and economic progress. The concept rests on the premise that both economic and social progress must be addressed using value principles. Value is defined as benefits relative to costs, not just benefits alone. Value creation is an idea that has long been recognized in business, where profit is revenues earned from customers minus the costs incurred. However, businesses have rarely approached societal issues from a value perspective but have treated them as peripheral matters. This has obscured the connections between economic and social concerns. In the social sector, thinking in value terms is even less common. Social organizations and government entities often see success solely in terms of the benefits achieved or the money expended. As governments and NGOs begin to think more in value terms, their interest in collaborating with business will inevitably grow.

This perspective has permeated management thinking for the past two decades. Firms focused on enticing consumers to buy more and more of their products. Facing growing competition and shorter-term performance pressures from shareholders, managers resorted to waves of restructuring, personnel reductions, and relocation to lower-cost regions, while leveraging balance sheets to return capital to investors. The results were often commoditization, price competition, little true innovation, slow organic growth, and no clear competitive advantage. In this kind of competition, the communities in which companies operate perceive little benefit even as profits rise. Instead, they perceive that profits come at their expense, an impression that has become even stronger in the current economic recovery, in which rising earnings have done little to offset high unemployment, local business distress, and severe pressures on community services.

It was not always this way. The best companies once took on a broad range of roles in meeting the needs of workers, communities, and supporting businesses. As other social institutions appeared on the scene, however, these roles fell away or were delegated. Shortening investor time horizons began to narrow thinking about appropriate investments. As the vertically integrated firm gave way to greater reliance on outside vendors, outsourcing and offshoring weakened the connection between firms and

their communities. As firms moved disparate activities to more and more locations, they often lost touch with any location. Indeed, many companies no longer recognize a home—but see themselves as “global” companies. These transformations drove major progress in economic efficiency. However, something profoundly important was lost in the process, as more fundamental opportunities for value creation were missed. The scope of strategic thinking contracted.

Strategy theory holds that to be successful, a company must create a distinctive value proposition that meets the needs of a chosen set of customers. The firm gains competitive advantage from how it configures the value chain, or the set of activities involved in creating, producing, selling, delivering, and supporting its products or services. For decades businesspeople have studied positioning and the best ways to design activities and integrate them. However, companies have overlooked opportunities to meet fundamental societal needs and misunderstood how societal harms and weaknesses affect value chains. Our field of vision has simply been too narrow. In understanding the business environment, managers have focused most of their attention on the industry, or the particular business in which the firm competes. This is because industry structure has a decisive impact on a firm’s profitability. What has been missed, however, is the profound effect that location can have on productivity and innovation. Companies have failed to grasp the importance of the broader business environment surrounding their major operations.

9.2 Shared Value – Society and Business

The concept of “Shared Value Creation” (SVC) put on the agenda of economic, political, and civil-society debates by Michael Porter and Mark Kramer in their Harvard Business Review article of 2011 has attracted different interpretations. The diverse reception of this concept, which goes far beyond its discussion in the economic discipline, is not always understood by its critics. This can lead to distortions when it comes to assessing its theoretical and practical importance. In essence, the concept itself, and all the different concepts of “shared value” related to it, focus on the relationship between “business and society”. That is their common denominator. It is frequently overlooked that this includes not only the economic and business dimension of this relationship, but also its socio-political dimension. As Porter and Kramer write: The concept of shared value – which focuses on the connections between societal and economic progress – has the power to unleash the next wave of global growth (Porter and Kramer 2011).

We should distinguish this overarching economic dimension from the strategic management of a company on the one hand, and from the moral coding of the concept on the other. Both perspectives believe that creating a parallelism and win-win situation of private and public wealth is feasible. Unlike Adam Smith, though, wealth is understood here not as the automatic result of the market’s invisible hand, but as something that requires appropriate structures of corporate governance. More and more, companies are creating shared value by developing profitable business strategies that deliver tangible social benefits. The thing is creating major new opportunities for profit and competitive advantage at the same time as it benefits society by unleashing the power of business to help solve fundamental global problems (Porter and Kramer, 2014).

Among other things, SVC is essentially about “creating”, “developing”, “opportunities”, “to help”, with the cooperation of organizations, i.e., about a common learning process involving business, politics and society, that includes the possibility of failure. The common criticism of this concept – that the trade-off between private and public wealth is not automatically given (and can in fact even be negative) – is undoubtedly true, although it fails to apply to the challenges the concept of SVC seeks to meet. The criticism also lacks specificity, since this applies to all human practice.

The possible consequences of this multi-dimensional debate on the theoretical and practical content of the Porter/Kramer concept, which we will explore in more detail later, are difficult to foresee

at present. Professional investors and business ethicists are, albeit for different reasons, united in their critical skepticism when it comes to the practical usefulness of the concept. What seems to be indisputable, however, is that mainstream theory-formation in economics reflects the narrowing of perspective to the economic responsibility of business, but not the formative developmental dynamics in the emergence of a global economic space and a global society. On the one hand, there is the question of how the economic and social responsibility of companies can be redefined jointly with government and civil society in consideration of social and environmental arguments in order to be able to deal with the consequences and challenges of global value chains that have long been visible. On the other hand, this presupposes for exactly these consequences and challenges to be understood and accepted as those of a common world shared by many nations and stakeholders. After all, the “Sustainable Development Goals” adopted by the UN in 2015 as part of its Agenda 2030 not only include 17 targets with more than 700 subtargets, but can only be achieved by politics, business and civil society through collective action that has a global reach. In a sense, they require awareness of the fact that the global world is not simply a world, but the shared world of present and future generations.

The Sustainable Development Goals provide a powerful aspiration for improving our world – laying out where we collectively need to go and how to get there. The heated debate on a strategic orientation of the economy and its businesses towards “shared value” should therefore, and can only, be seen against this background, which, ultimately, it reflects. The European Commission already called for business to be aware of its social responsibility in its CSR communication of 2011. In preparation for “Agenda 2030”, the UN circulated in December 2014 a working paper by the Secretary-General entitled “The Road to Dignity by 2030”. In it, he made explicit the connection between social responsibility, “shared value creation”, and inclusive societies. The demand for “shared responsibilities to embark on a path to inclusive and shared prosperity” builds in turn on “shared values, principles, and priorities for a common destiny”, and requires a global, rather than a local or national, perspective, a perspective that is to be thought of “in terms of shared responsibilities for a shared future” (United Nations, 2014). He then argues from an economic angle that “economic growth should lead to shared prosperity”, and that conventional “business models [are to be transformed] for creating shared value” (United Nations, 2014). But this necessarily requires a wider and deeper “understanding of economic performance, and our metrics for gauging it” (United Nations 2014).

9.3 Creating Shared Value

Companies can create economic value by creating social value. There are three different ways to do this: by reconceiving products and markets, redefining productivity in the value chain, and building supportive industrial clusters at company locations. Each of these is part of a virtuous circle of shared values; increasing value in one area will give rise to opportunities in other areas. The concept of shared value changes the boundaries of capitalism. By better linking corporate success to the betterment of society, it opens up many ways to serve new needs, gain efficiencies, create differentiation, and expand markets.

The ability to create shared value applies to both developed and developing countries, although the specific opportunities differ. The opportunities will also vary greatly across industries and companies—but every company has them. And its reach and scope is much wider than previously known. Creating Shared Value aims to reinvent capitalism and thereby unleash a wave of innovation and growth, which will benefit business and society. Companies are encouraged to “leverage their skills, resources, and management capabilities to lead social progress” (Porter and Kramer 2011).

Furthermore, Porter and Kramer suggest thinking about people's needs – not “products” and “services” – and making them the starting point for innovation. This differentiation is very important for companies and their business models, both in theory and in practice: if we take into account the need for

mobility, then the production and sale of motor vehicles, for example, is a means to an end. However, mobility can also be provided by other products and services (e.g. car sharing, mobility subscription models, etc.). Therefore, car manufacturers that meet mobility needs can shift into mobility businesses and develop new, sustainable markets.

CSV is not associated with unwieldy normative terms such as justice, responsibility, or the common good, nor is it related to familiar CSR debates, but rather represents a new understanding of value creation. With the terminological transition from responsibility to value creation, Porter and Kramer (2014) want to reach a mainstream that has been skeptical and will continue to keep its distance. The “Shared Value Initiative” initiated by their business consultant “Foundation Strategy Group” invites business, civil society and politics to apply the concept in practice. Porter and Kramer contrast their CSV with an outdated understanding of CSR by equating CSR with mere philanthropy disconnected from a company's core business, whereas CSV claims to be integrated into core business activities (Porter and Kramer 2011).

Profit maximization is not only considered empirical – businesses need to maximize profits in a competitive environment – but is also considered morally good. CSV reinforces this normative definition by assuming that businesses meet “society's needs” while generating profits. However, the profit motive alone is questionable, as social needs are seen only as a means to an end, thereby enabling businesses to discover new market opportunities, calculate the business case, and invest profitably. Businesses like this are good rational agents, but this behavior has nothing to do with truly responsible and ethical behavior.

The business world is an actor that is profit-oriented and operates based on economic rationality. However, they are also societal actors and therefore they understand how to interact with the environment through different rationalities. They are, for example, not just objects of law and order, but also political actors who actively participate in political decision-making processes through lobbying and campaign donations or by engaging in public discourse. The business world can be involved in its community by acting as a “corporate citizen” and thereby shaping its social environment. These activities are not aimed at generating added economic value for the company; they actually illustrate how the business world has different roles in society.

Instead of the functional concept of CSV, businesses need an ethical mission statement on the basis of which they understand themselves not only as economic, but also as societal actors. This touches upon aspects like their fundamental values or their contribution to society. Such a mission statement lays the normative foundation on which businesses can act responsibly. This does not exclude profit maximization. On the contrary, it is the normative foundation that renders profits legitimate in the first place. This legitimacy, and with it the recovery of public trust, is essential for the promised reinvention of capitalism. For this cause though, it is not enough to re-tell the old story of economic rationality, innovation and growth. A real paradigmatic shift requires better ideas and bolder propositions which recognize businesses as a part of society.

9.4 Creating Shared Value in Practice

Not all profit is equal. Profits involving a social purpose represent a higher form of capitalism, one that creates a positive cycle of company and community prosperity limited impact because they take on too many areas without focusing on value. But efforts to enhance infrastructure and institutions in a region often require collective action, as the Nestlé, Yara, and Research Triangle examples show. Companies should try to enlist partners to share the cost, win support, and assemble the right skills. The most successful cluster development programs are ones that involve collaboration within the private sector, as well as trade associations, government agencies, and NGOs. Not all profit is equal—an idea that has been lost in the narrow, short-term focus of financial markets and in much management thinking.

Profits involving a social purpose represent a higher form of capitalism—one that will enable society to advance more rapidly while allowing companies to grow even more. The result is a positive cycle of company and community prosperity, which leads to profits that endure.

Creating shared value presumes compliance with the law and ethical standards, as well as mitigating any harm caused by the business, but goes far beyond that. The opportunity to create economic value through creating societal value will be one of the most powerful forces driving growth in the global economy. This thinking represents a new way of understanding customers, productivity, and the exaccess to housing. A shared value approach would have led financial services companies to create innovative products that prudently increased access to home ownership. This was recognized by the Mexican construction company Urbi, which pioneered a mortgage-financing “rent-to-own” plan. Major U.S. banks, in contrast, promoted unsustainable financing vehicles that turned out to be socially and economically devastating, while claiming they were socially responsible because they had charitable contribution programs.

Inevitably, the most fertile opportunities for creating shared value will be closely related to a company’s particular business, and in areas most important to the business. Here a company can benefit the most economically and hence sustain its commitment over time. Here is also where a company brings the most resources to bear, and where its scale and market presence equip it to have a meaningful impact on a societal problem. Ironically, many of the shared value pioneers have been those with more-limited resources—social entrepreneurs and companies in developing countries. These outsiders have been able to see the opportunities more clearly. In the process, the distinction between for-profits and nonprofits is blurring.

Shared value is defining a whole new set of best practices that all companies must embrace. It will also become an integral part of strategy. The essence of strategy is choosing a unique positioning and a distinctive value chain to deliver on it. Shared value opens up many new needs to meet, new products to offer, new customers to serve, and new ways to configure the value chain. And the competitive advantages that arise from creating shared value will often be more sustainable than conventional cost and quality improvements. The cycle of imitation and zero-sum competition can be broken.

The opportunities to create shared value are widespread and growing. Not every company will have them in every area, but our experience has been that companies discover more and more opportunities over time as their line operating units grasp this concept. It has taken a decade, but GE’s Ecomagination initiative, for example, is now producing a stream of fast-growing products and services across the company. A shared value lens can be applied to every major company decision. Could our product design incorporate greater social benefits? Are we serving all the communities that would benefit from our products? Do our processes and logistical approaches maximize efficiencies in energy and water use? Could our new plant be constructed in a way that achieves greater community impact? How are gaps in our cluster holding back our efficiency and speed of innovation? How could we enhance our community as a business location? If sites are comparable economically, at which one will the local community benefit the most? If a company can improve societal conditions, it will often improve business conditions and thereby trigger positive feedback loops.

The three avenues for creating shared value are mutually reinforcing. Enhancing the cluster, for example, will enable more local procurement and less dispersed supply chains. New products and services that meet social needs or serve overlooked markets will require new value chain choices in areas such as production, marketing, and distribution. And new value chain configurations will create demand for equipment and technology that save energy, conserve resources, and support employees. Creating shared value will require concrete and tailored metrics for each business unit in each of the three areas. While some companies have begun to track various social impacts, few have yet tied them to their economic interests at the business level. Shared value creation will involve new and heightened forms of collaboration. While some shared value opportunities are possible for a company to seize on its own,

others will benefit from insights, skills, and resources that cut across profit/ nonprofit and private/public boundaries. Here, companies will be less successful if they attempt to tackle societal problems on their own, especially those involving cluster development. Major competitors may also need to work together on precompetitive framework conditions, something that has not been common in reputation-driven CSR initiatives. Successful collaboration will be data driven, clearly linked to defined outcomes, well connected to the goals of all stakeholders, and tracked with clear metrics. Governments and NGOs can enable and reinforce shared value or work against it.



Figure 9. 1 How Shared Value Differs From Corporate Social Responsibility
Source: Josef Wieland (2017).

9.5 Government Regulation and Shared Value

The right kind of government regulation can encourage companies to pursue shared value; the wrong kind works against it and even makes trade-offs between economic and social goals inevitable. Regulation is necessary for well-functioning markets, something that became abundantly clear during the recent financial crisis. However, the ways in which regulations are designed and implemented determine whether they benefit society or work against it.

Regulations that enhance shared value set goals and stimulate innovation. They highlight a societal objective and create a level playing field to encourage companies to invest in shared value rather than maximize short-term profit. Such regulations have a number of characteristics:

First, they set clear and measurable social goals, whether they involve energy use, health matters, or safety. Where appropriate, they set prices for resources (such as water) that reflect true costs. Second, they set performance standards but do not prescribe the methods to achieve them—those are left to companies. Third, they define phase-in periods for meeting standards, which reflect the investment or new-product cycle in the industry. Phase-in periods give companies time to develop and introduce new products and processes in a way consistent with the economics of their business. Fourth, they put in place universal measurement and performance reporting systems, with government investing in infrastructure for collecting reliable benchmarking data (such as nutritional deficiencies in each community). This motivates and enables continual improvement beyond current targets. Finally, appropriate regulations require efficient and timely reporting of results, which can then be audited by the government as necessary, rather than impose detailed and expensive compliance processes on everyone.

Regulation that discourages shared value looks very different. It forces compliance with particular practices, rather than focusing on measurable social improvement. It mandates a particular approach to meeting a standard blocking innovation and almost always inflicting cost on companies. When governments fall into the trap of this sort of regulation, they undermine the very progress that they seek while triggering fierce resistance from business that slows progress further and blocks shared value that would improve competitiveness.

To be sure, companies locked into the old mind-set will resist even well constructed regulation. As shared value principles become more widely accepted, however, business and government will become more aligned on regulation in many areas. Companies will come to understand that the right kind of regulation can actually foster economic value creation.

Finally, regulation will be needed to limit the pursuit of exploitative, unfair, or deceptive practices in which companies benefit at the expense of society. Strict antitrust policy, for example, is essential to ensure that the benefits of company success flow to customers, suppliers, and workers.

Summary

The concept of shared value can be defined as policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates. Shared value creation focuses on identifying and expanding the connections between societal and economic progress. The concept rests on the premise that both economic and social progress must be addressed using value principles. Value is defined as benefits relative to costs, not just benefits alone. Value creation is an idea that has long been recognized in business, where profit is revenues earned from customers minus the costs incurred. However, businesses have rarely approached societal issues from a value perspective but have treated them as peripheral matters.

Companies can create economic value by creating societal value. There are three distinct ways to do this: by reconceiving products and markets, redefining productivity in the value chain, and building supportive industry clusters at the company's locations. Shared value opens up many new needs to be met, new products to be offered, new customers to be served, and new ways to configure the value chain. And competitive advantages arising from shared value creation are often more sustainable than conventional cost and quality improvements. Opportunities for creating shared value are widespread and growing. Not every company has it in every area, but based on experience, companies find more and more opportunities over time as their operating units understand this concept. If a company can improve societal conditions, this will often improve business conditions and thus trigger a positive feedback loop.

Appropriate government regulation can encourage companies to pursue shared value. Regulation is necessary for markets to function well. However, the way regulations are designed and implemented determines whether they benefit or harm society. Regulations that enhance shared value set goals and stimulate innovation. This highlights societal goals and creates level playing field to encourage companies to invest in shared value rather than maximizing short-term profits. These regulations have a number of characteristics: First, set clear and measurable social goals, whether they involve energy use, health issues or safety. Second, setting performance standards but not determining methods for achieving them—that is left to the company. Third, determine the gradual period for meeting the standard, which reflects the cycle of investments or new products in the industry. Fourth, implement a universal performance measurement and reporting system, with government investment in infrastructure to collect reliable benchmark data. Finally, proper regulation requires efficient and timely reporting of results, which can then be audited by the government if necessary, rather than imposing a detailed and expensive compliance process on everyone.

Discussion Questions

1. Is CSV a waste?
2. Is the CSV concept different from the CSR concept?
3. Analyze why businesses in your country should start to redefine CSR activities to CSV?
4. Why should companies implement CSV?
5. Create your analysis, how is the CSV concept formulated in global companies?

Suggested reading

- Asit K. Biswas, Cecilia Tortajada, Andrea Biswas-Tortajada, Yugal K. Joshi, Aishvarya Gupta (2014). *Creating Shared Value: Impacts of Nestle in Moga, India*, Springer Briefs on Case Studies of Sustainable Development.
- Josef Wieland (2017). *Creating Shared Value: Concepts, Experience, Criticism*, Springer International Publishing.
- Michael E. Porter and Mark R. Kramer (2011). *Creating Shared Value*, Harvard Business Review.
- Porter, M.E., & Kramer, M. (2011). *Creating Shared Value*. Harvard Business Review, 89(1), 62–77.
- Porter, M.E., & Kramer, M.R. (2014). A response to Andrew Crane et al.'s article. *California Management Review*, 56, 149–51.
- R Paolo Ricci, Patrick O'Sullivan, Floriana Fusco (2023). *The Meaning of Shared Value: New Perspective on Creating Shared Value*, Routledge.
- United Nations (2014). *The road to dignity by 2030: Ending poverty, Transform-ing all lives and protecting the planet*. Synthesis report of the secretary-general on the post-2015 Agenda. UN. http://www.un.org/disabilities/documents/reports/SG_Synthesis_Report_Road_to_Dignity_by_2030.pdf. Accessed 13 Jan 2016.

GLOSSARY

A top-down theoretical approach, It uses systems theory to predefine expected interactions, define levels of analysis, and link these to systems outcomes.

Adaptation interventions: The development of concrete actions aimed at enhancing the resilience of human and natural systems against the adverse impacts caused by climate change.

Business behaviors: the moral principles, policies, and values that govern the way companies and individuals engage in business activity.

Circular economy: holistic approach to economic development that seeks to minimize waste and make the most of resources aiming to create a closed-loop system where resources are continuously reused, recycled, and regenerated.

Climate change management: The execution of diverse mitigation and adaptation interventions to address the cause-and-effect relationships during transitions between different scenarios in the climate change cycle.

Creating Shared Value, is a framework for creating economic value while simultaneously addressing societal needs and challenges. When business act as business, not act as charitable donors, they can improve profitable while also improving environmental performance, public health and nutrition, affordable housing, and financial security and other societal wellbeing.

CSR (Corporate Social Responsibility): a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders.

Environmental sustainability: meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Environmental, Social, and Governance (ESG): is a concept that prioritizes sustainable development, investment and business activities in accordance with the three criteria, namely environmental, social and governance.

Greenhouse gases: Harmful gases that contribute to global warming by concentrating in the atmosphere, trapping heat and preventing solar radiation from escaping into space.

Human right: are rights inherent to all human beings, regardless of race, sex, nationality, ethnicity, language, religion, or any other status.

International Organization for Standardization (ISO): an independent, non-governmental, international standard development organization composed of representatives from the national standards organizations of member countries.

Legal Framework: the rules, rights and obligations of companies, governments, and citizens are set forth in a system of legal documents.

Millennium Development Goals (MDGs) are 8 goals that UN Member States have agreed to try to achieve by the year 2015. **The MDGs have been superseded by the Sustainable Development Goals.**

Mitigation interventions: The development of concrete actions aimed at reducing emission and concentration of polluting gases in the atmosphere.

Political System Approach, who identified the various connections between the SDGs as the result of the political process through which the SDGs were formed.

Pragmatic (Bottom Up) Approach, to guide actions towards achieving the SDGs and support a better understanding of the nature, dynamics and range of positive and negative interactions between the goals

Principles based Approach, resembles a synthesis of principles that had been discussed in the global arena: from universal human rights principles and the OECD guidelines on multinational enterprises, to principles as defined by the UN Global Compact.

Regulation: a set of constitutional, legislative, regulatory, jurisprudential and managerial rules that together establish the voting rights citizens use to elect representatives

Shared Value, as policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates

Social investors: are people who want to improve conditions in society by investing their money in shares or mutual fund from companies that doing their practices in environmental, social and governance issues.

Social responsibility: Social responsibility is an ethical *framework in which a person works and cooperates with other people and organizations* for the benefit of the community.

Socially responsible investment (SRI)/Sustainable/ethical/green investment: is a new type of investment movement in response to social expectations of investors.

Socio-economic development paths: The implementation of productive activities with the aim of advancing economic and social progress is driven by four main factors: economic growth, human capital, governmental policies, and technology.

Sustainability accounting: is a term related to the policy of incorporating environmental cost elements into the accounting practices of companies or government agencies.

Sustainability, is an essential part of facing current and future global challenges, not only those related to the environment. Sustainable Development, Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs

Sustainable Development Goals, also known as the Global Goals, is a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity.

Sustainable finance: is about financing both what is already environment-friendly today (green finance) and what is transitioning to environment-friendly performance levels over time (transition finance).

Systems thinking: is a set of synergistic analytic skills used to improve the capability of identifying and understanding systems, predicting their behaviors, and devising modifications to them in order to produce desired effects. These skills work together as a system. (Arnold and Wade, 2015)

The 5 R's of the circular economy: represent a set of principles and actions aimed at promoting sustainability, reducing waste, and creating a more circular and resource-efficient system. These are: reduce, reuse, recycle, recover and rethink.

Three Pillars Model, there are three pillars of corporate sustainability: the environmental, the socially responsible, and the economic.