

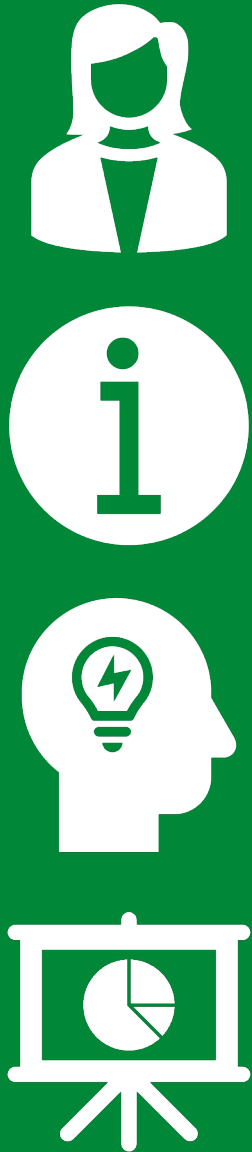
DTU



Laura ACEVEDO

PhD Project: Strategic design approaches to a climate neutral and resource effective society

AGENDA

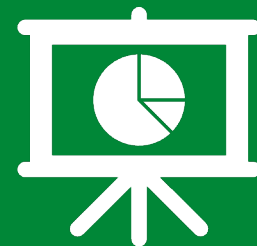


Who I am?
What is my PhD about? 5 minutes

Context
Problem 10 minutes
Important Definitions

Research Gaps
PhD Research Goal 10 minutes
Methodology

Research Question 1
Results 5 minutes
Research Question 2





WHO AM I?

- **PhD student at the Technical University of Denmark, Copenhagen, supervised by Prof. Tim MCALOONE and Assoc. Prof. Daniela PIGOSSO**
- **Part of the Centre for Absolute Sustainability**
- **External Research Stay at Institut of Arts et Mertiers, Chambéry, France alongside Assoc. Prof. Tatiana REYES**

- **Born in Caracas, Venezuela**
- **Grew up in Panama City, Panama**
- **BSc in Florida State University, Florida, Tallahassee, USA**
- **MSc in Climate Change at the University of Copenhagen, Denmark**



Strategic design approaches to achieving a climate neutral and resource effective society

What is sustainability?

Is there a one-size-fits-all solution?





Organisational Structure



(Baumgartner, 2014)



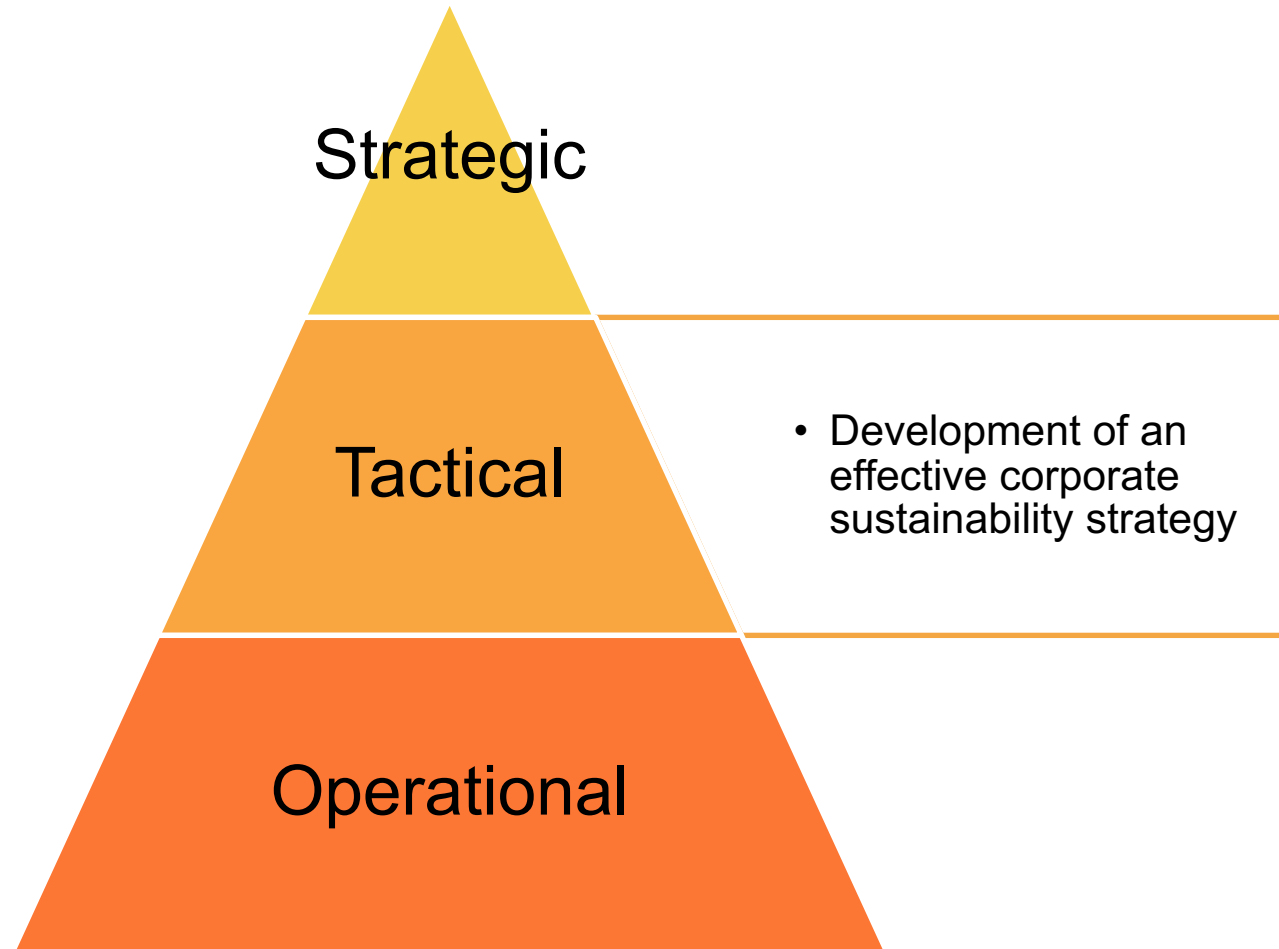
Organisational Structure



(Baumgartner, 2014)



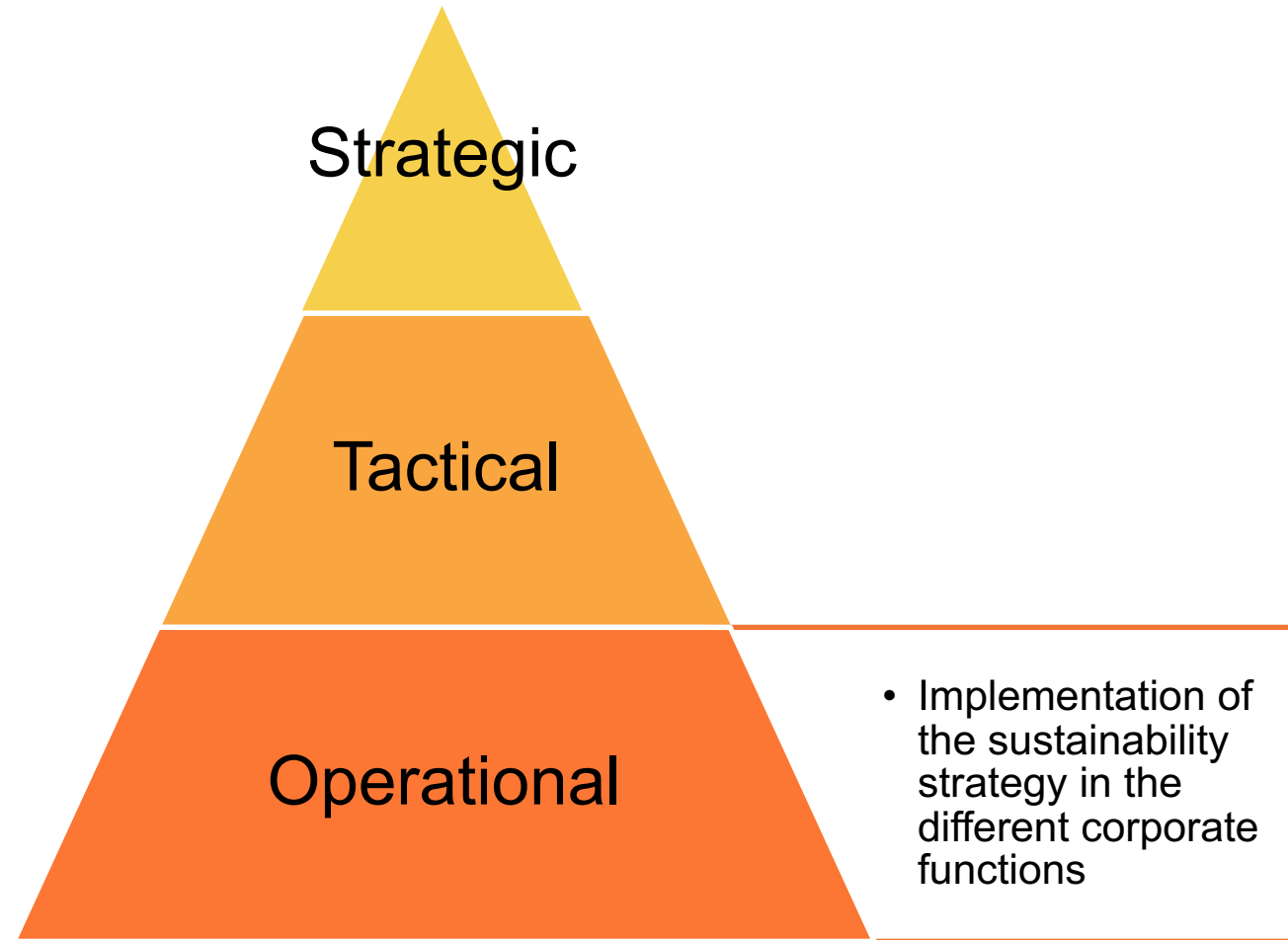
Organisational Structure



(Baumgartner, 2014)



Organisational Structure



(Baumgartner, 2014)



What is the problem?

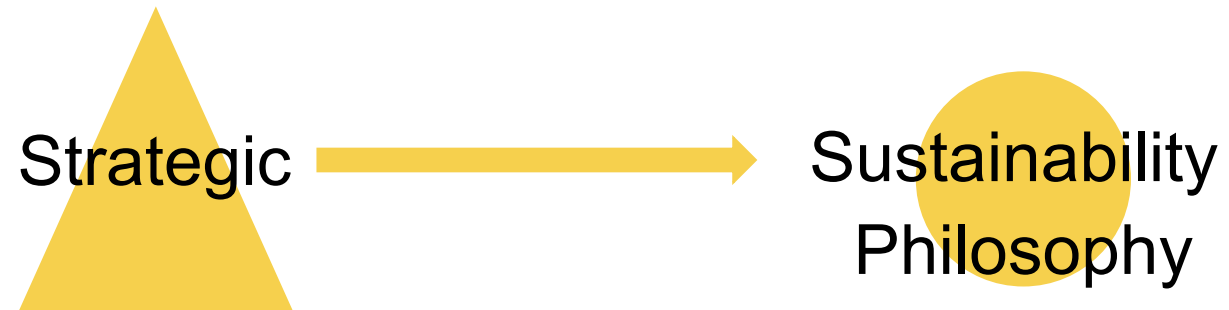


- Vision and mission of a company and of the fit between sustainability engagement and organisational culture.

- Decision-makers inside organisations are subject to **different sustainability conceptions**, resulting in different potential objectives for sustainability management (Lankoski, 2016).
- These different sustainability may **conflict with each other**, be applicable to an extent, or present **difficulties when systematizing** (de Koeijer et al., 2023).
- Companies **lack a roadmap** to enable the maintenance of a continuous improvement approach during the development of both their processes and products (Dekoninck et al. 2016).
- **Because of this, it is necessary to provide an exhaustive assessment of what is available** for managers and decision-makers (Lankoski, 2016).



Focus of my PhD



Sustainability Philosophy (PHL)

- Influence a company's **organisational culture** and the construction of an organisation or company's **vision** (Baumgartner and Rauter, 2017).
- Chosen at the **strategic level** of the organization (Baumgartner and Rauter, 2017).
- Philosophies serve to **inform decision-makers** (Morioka et al., 2017).
- Promotes performing actions whilst complying with specific **principles**, which are the building blocks, which are not specific for every philosophy.
- Their end goal is contributing to sustainable development by improving organizations or companies' performance **in some or all the three pillars**.

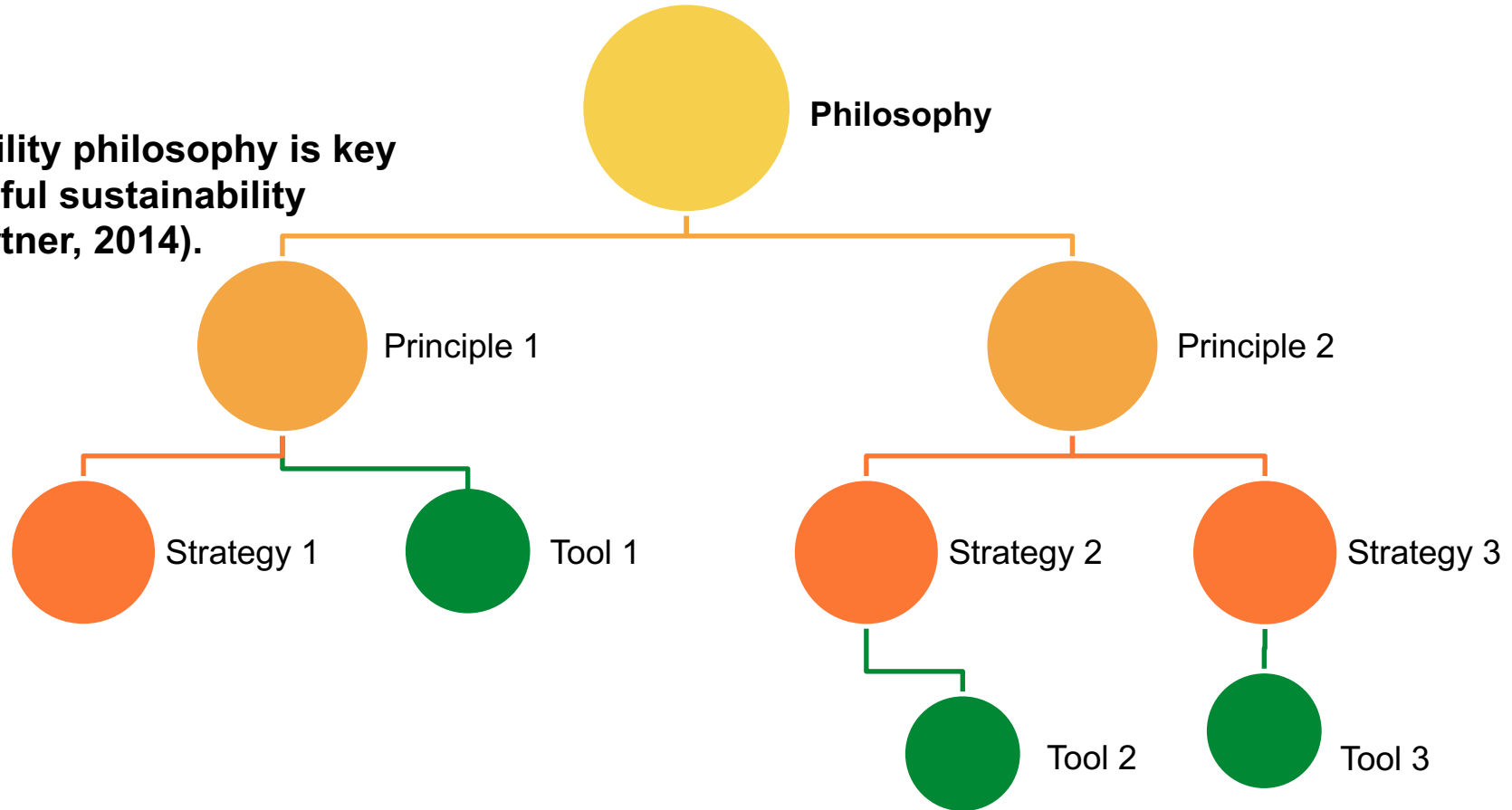


Difference between Philosophies, Principles, Strategies, and Tools

- **Philosophies** contribute to both long- and short-term human welfare (Glavič and Lukman, 2007);
- **Principles** serve as foundation for a set of beliefs or behaviours or for a chain of reasoning (ISO 37000:2021);
- **Strategies** aim to eliminate violations to the philosophies' principles (MacDonald, 2005);
- **Tools** assist in the implementation and monitoring of strategies (MacDonald, 2005);



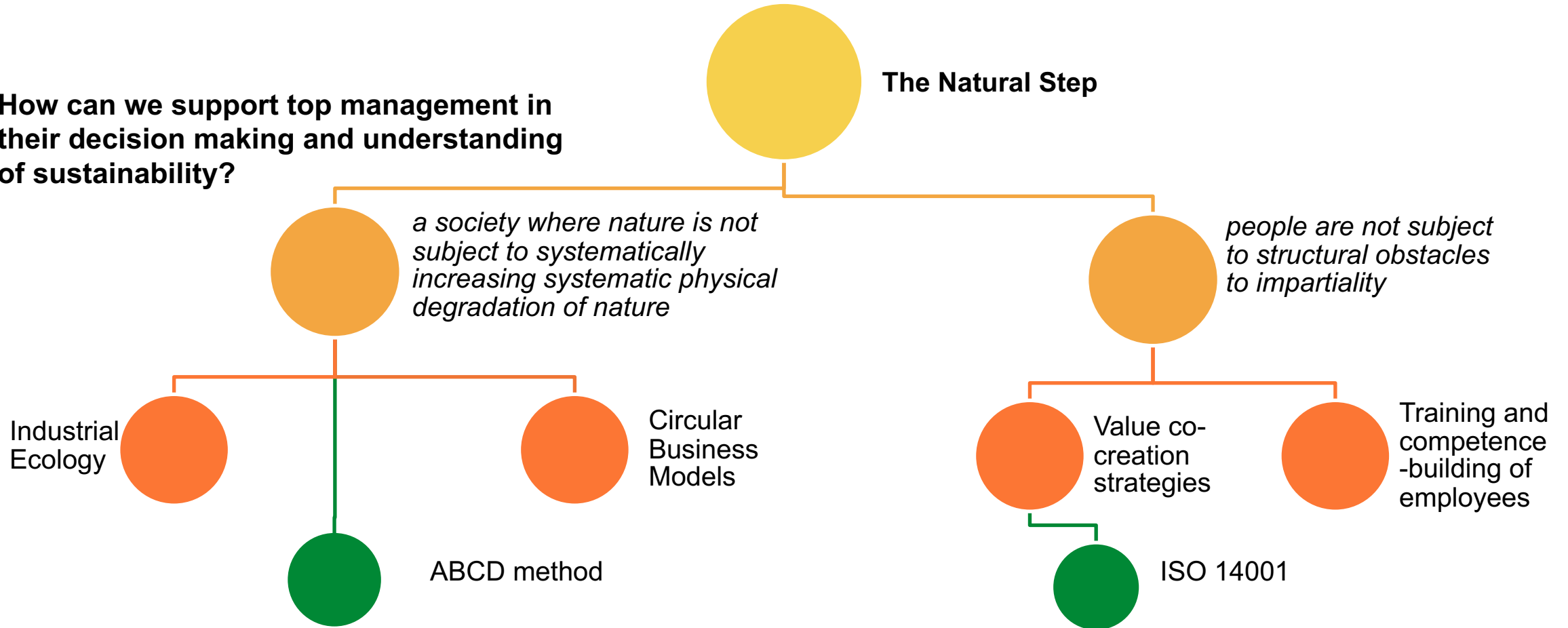
Choice of sustainability philosophy is key for shaping successful sustainability strategies (Baumgartner, 2014).



● strategic
 ● tactical
 ● operational



How can we support top management in their decision making and understanding of sustainability?



● strategic
 ● tactical
 ● operational



Summary

- The vision and mission, sustainability engagement, and organisational culture are set at the **strategic level**.
- These are influenced by **sustainability philosophies. But there are too many**, which one is the right one for a company? On what should this selection be based?





Identified Research Gaps

- **No identification of existing sustainability philosophies** across sectors and regions:
 - Few analysis of their origins, synergies, focus areas, and such, some are superficial (examples of existing ones include Bina, 2013; Loiseau et al., 2016; Demastus 2023);
- No methodology/tool that **guides companies strategically** towards the adequate philosophy specifically for each organisation (Landrum 2018, Demastus 2023);
- **There is a lack of systematisation** of the application of the existing philosophies inside organisations, which has led to a **limited understanding** of their differences, similarities, strengths and gaps in relation to each other, as well as their potential application areas.



PhD Research Goals

- Identify sustainability philosophies across sectors, regions, and disciplines;
- Guide and support companies so they gain a **wider notion of sustainability** so they can better shape their strategies;
- Guide companies **strategically** towards the right philosophy;
- Ensure there is a **more thorough understanding** of the philosophies;
- Provide a notion of sustainability that goes beyond a company or organisation's door, hence becoming more **holistic**;



Methodology: Design Research Methodology



Research Clarification

- Initial Literature Review
- Elaborate definition of philosophy and principle



Descriptive Study I

- RQ1. What are the existing sustainability philosophies?
 - Systematic Literature Review and Protocol
 - Identification of 15 philosophies
 - Analysed over various areas



Prescriptive Study

- RQ2. How to guide companies strategically towards these philosophies?
 - Development of Interactive Tool
 - Testing of the tool at the EcoSD workshop



Descriptive Study II

- RQ3. How can companies activate the resources they have to fully implement the philosophies and their principles?
 - Development of the Final Tool



(Blessing and Chakrabarti, 2009)



RQ1. What are the existing sustainability philosophies?

Of each philosophy identify:

1. What are their principles?
2. What is their sustainability vision?

Classify them based on:

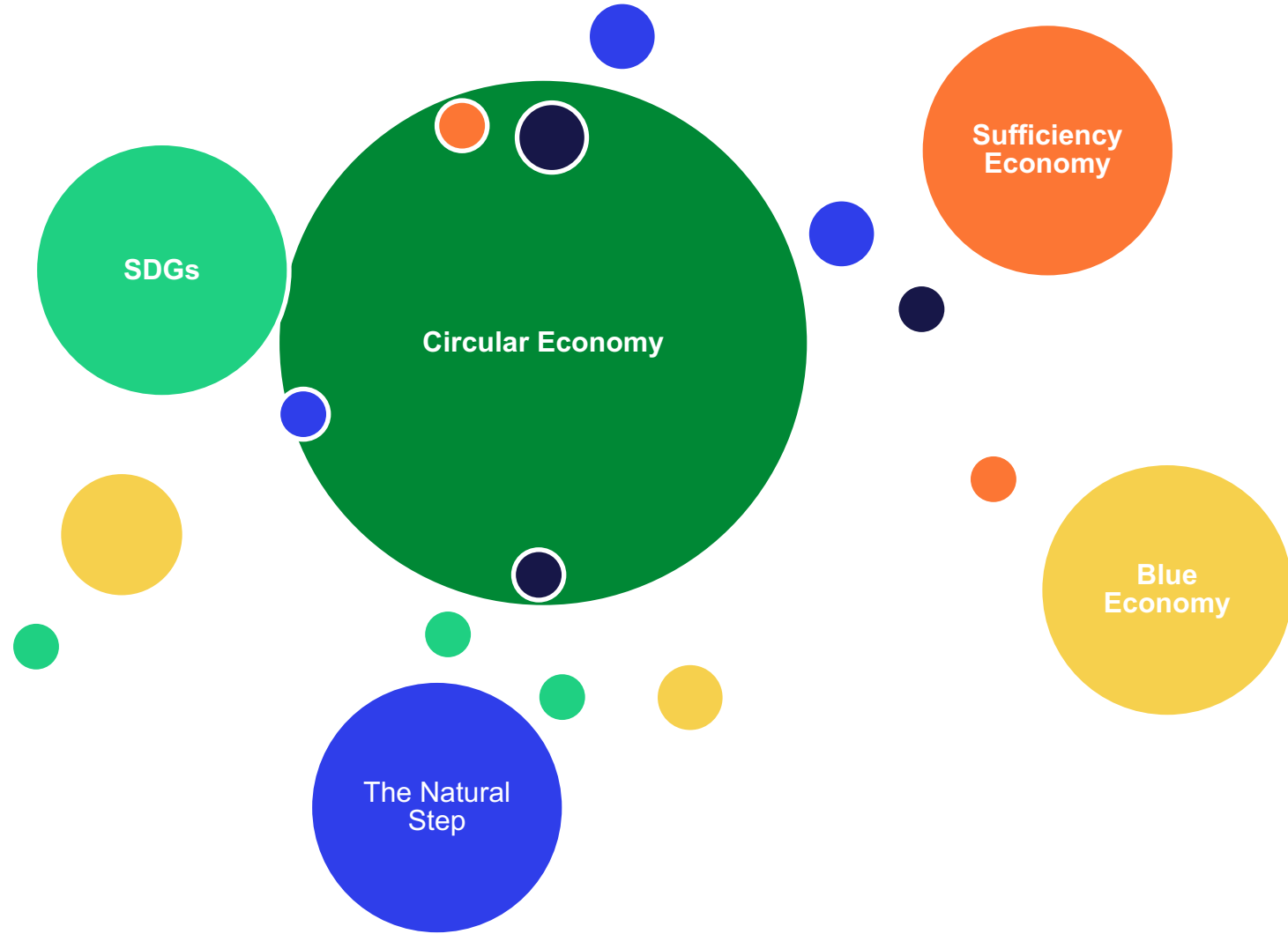
3. Classify as either absolute or relative,
4. Which societal needs they target?
5. How do they influence the three pillars (environmental, social, and economic)?
6. Where inside an organisation are strategies deployed to achieve them?



1. What are their principles?

Of each philosophy identify:

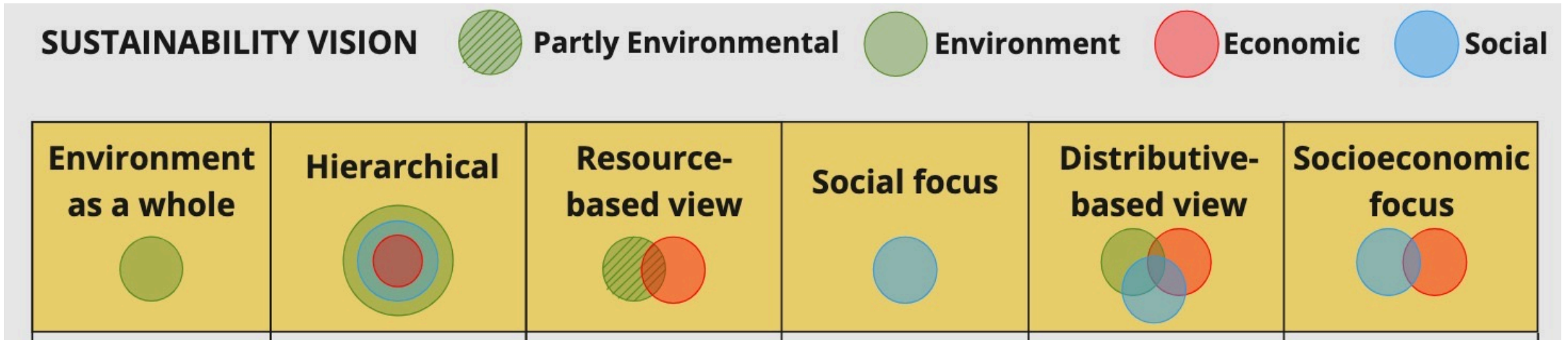
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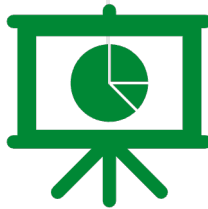
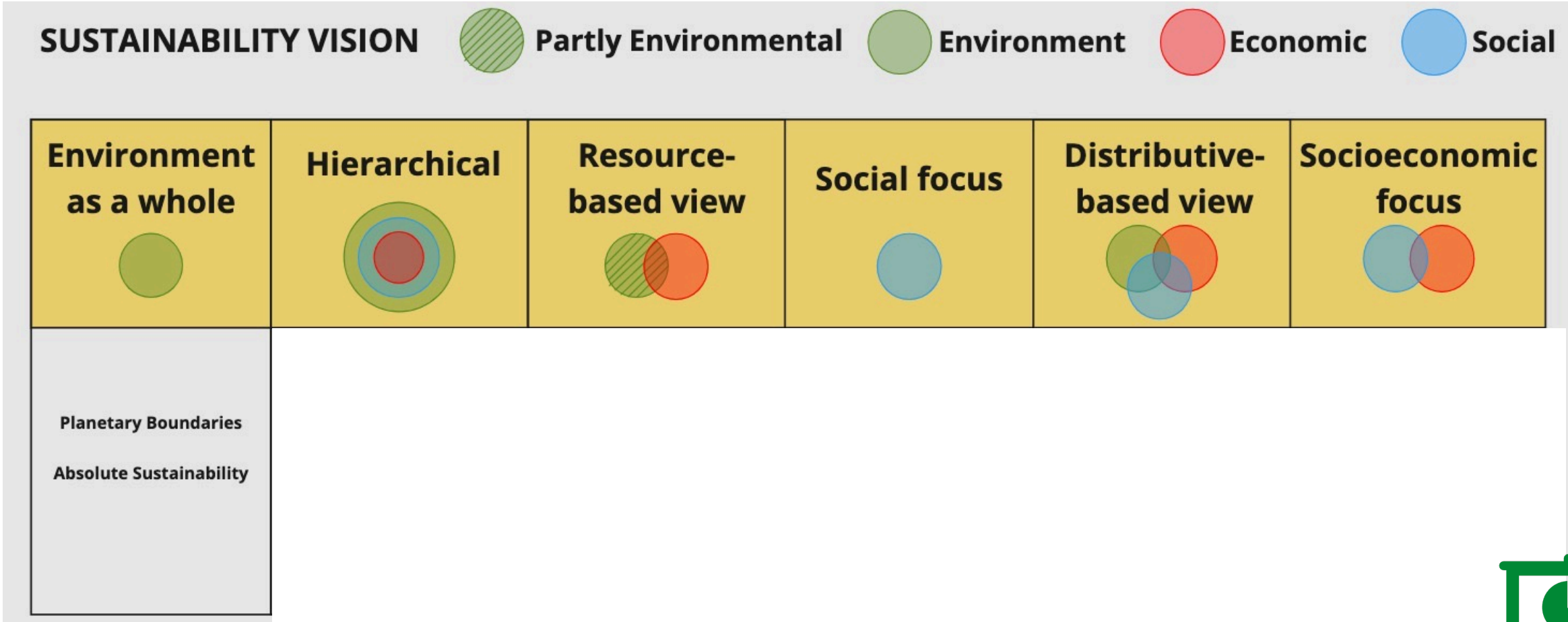
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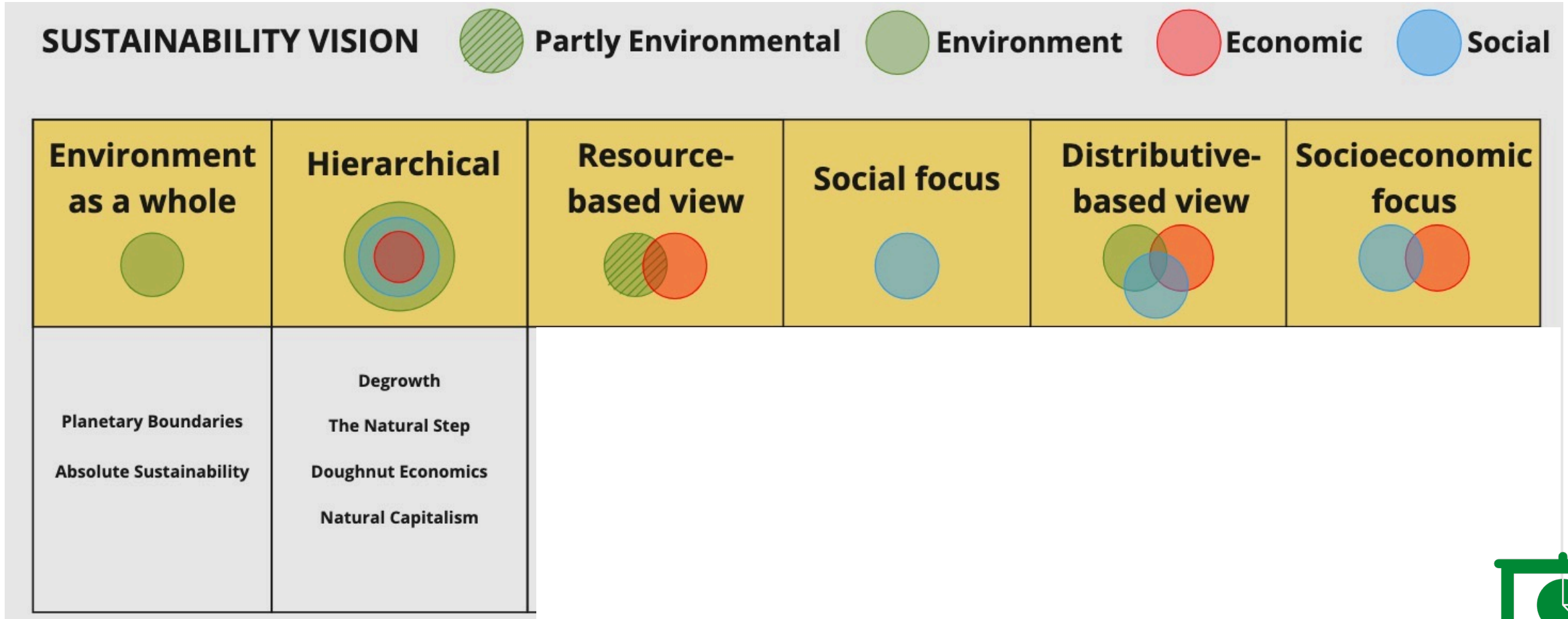
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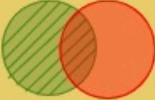



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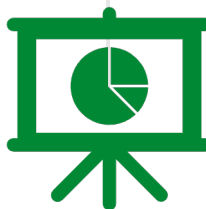
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SUSTAINABILITY VISION

 Partly Environmental
  Environment
  Economic
  Social

Environment as a whole	Hierarchical	Resource-based view	Social focus	Distributive-based view	Socioeconomic focus
					
Planetary Boundaries Absolute Sustainability	Degrowth The Natural Step Doughnut Economics Natural Capitalism	Circular Economy	Blue Economy Green Economy		



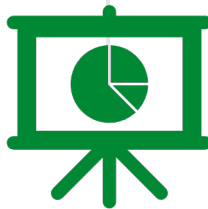
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SUSTAINABILITY VISION Partly Environmental Environment Economic Social

Environment as a whole	Hierarchical	Resource-based view	Social focus	Distributive-based view	Socioeconomic focus
Planetary Boundaries Absolute Sustainability	Degrowth The Natural Step Doughnut Economics Natural Capitalism	Circular Economy	Blue Economy Green Economy	Sustainable Development Goals Triple Bottom Line Sufficiency Economy	



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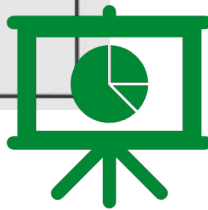
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SUSTAINABILITY VISION

Partly Environmental
 Environment
 Economic
 Social

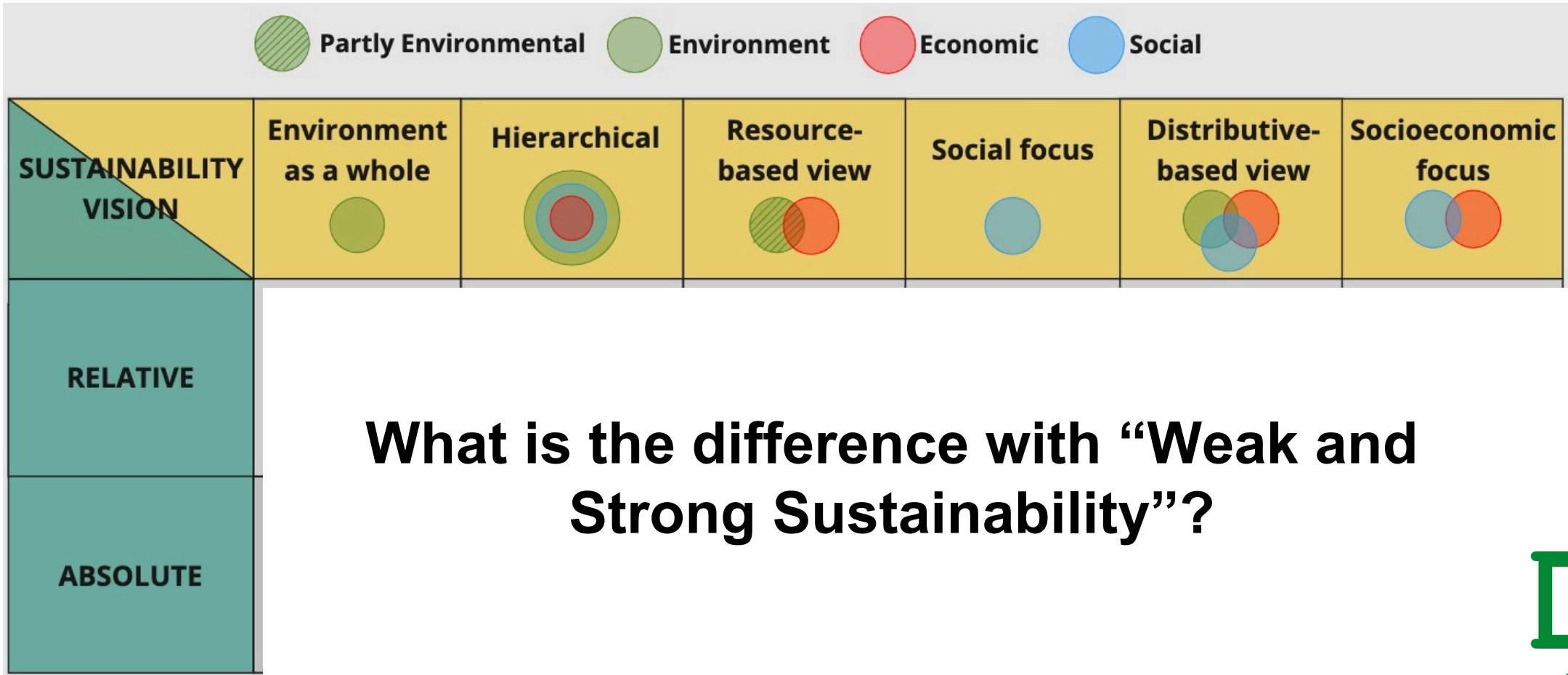
Environment as a whole	Hierarchical	Resource-based view	Social focus	Distributive-based view	Socioeconomic focus
Planetary Boundaries Absolute Sustainability	Degrowth The Natural Step Doughnut Economics Natural Capitalism	Circular Economy	Blue Economy Green Economy	Sustainable Development Goals Triple Bottom Line Sufficiency Economy	Foundational Economics Conscious Capitalism Solidarity Economy



Classify them based on:

3. Classify as either absolute or relative,
4. Which societal needs they target?
5. How do they influence the three pillars (environmental, social, and economic)?
6. Where inside an organisation are strategies deployed to achieve them?

3. Classification as either Absolute or Relative



What is the difference with “Weak and Strong Sustainability”?

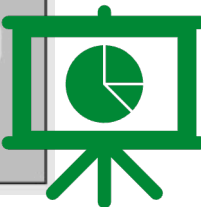


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3. Classification as either Absolute or Relative

		Partly Environmental Environment Economic Social				
SUSTAINABILITY VISION	Environment as a whole	Hierarchical	Resource-based view	Social focus	Distributive-based view	Socioeconomic focus
RELATIVE			Blue Economy Circular Economy Green Economy		Triple Bottom Line Sustainable Development Goals	Foundational Economics Conscious Capitalism
ABSOLUTE	Planetary Boundaries Absolute Sustainability	Degrowth The Natural Step Doughnut Economics Natural Capitalism			Sufficiency Economy	Solidarity Economy



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4. Which societal needs they target?



Communication: Provided by a mix of equipment and technology ranging from personal mobile devices to data centres.



Consumables: Refrigerators, clothing, cleaning agents and paints, textiles, synthetic materials like polyester, dye pigments, and chemicals.



Healthcare: Include use of capital equipment such as x-ray machines, pharmaceuticals, hospital outfitting, disposables and homecare equipment.



Housing: Largest resource and emissions footprint is for construction and maintenance of residential houses, especially in lower-income nations.



Nutrition: Includes agricultural products such as crops and livestock.



Services: Ranges from education and public services to commercial services like banking and insurance.



Mobility: Includes materials to build transport technologies and vehicles like cars, trains and aeroplanes.



3. Classify as either absolute or relative,
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6. Where inside an organisation are strategies deployed to achieve them?

5. How do they influence aspects of the three pillars?

Environmental Aspects

ISO 26000:2010

- Climate change mitigation and adaptation,
- Pollution prevention,
- Environmental protection,
- Sustainable resource use

Social Aspects

ISO 26000:2010

- Community involvement and development,
- Consumer issues,
- Fair operating spaces,
- Human rights,
- Labour practices/conditions,
- Organizational governance

Economic Aspects

(Baumgartner and Rauter, 2017)

- Collaboration,
- Innovation & Technology,
- Knowledge management,
- Processes,
- Purchase,
- Sustainability Reporting



6. Where inside an organisation are strategies deployed to achieve the philosophy?

5. Business Processes (BPs)

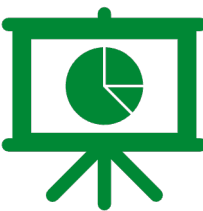
- After-sale service,
- Business model,
- EoL operations,
- Marketing,
- Product development,
- Production and operations,
- R&D,
- Supply chain

Classify them based on:

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RQ2. How to guide companies strategically towards these philosophies?



RQ2. How to guide companies strategically towards these philosophies?

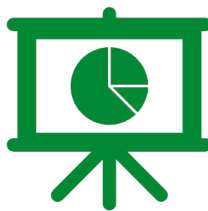


- Societal Needs;
- Three Pillars;
- Business Processes

- Recommendation of philosophies;
- Key principles of the philosophies;
- Associations, policies, and initiatives

- Selected principles;

Our focus for today



Summary

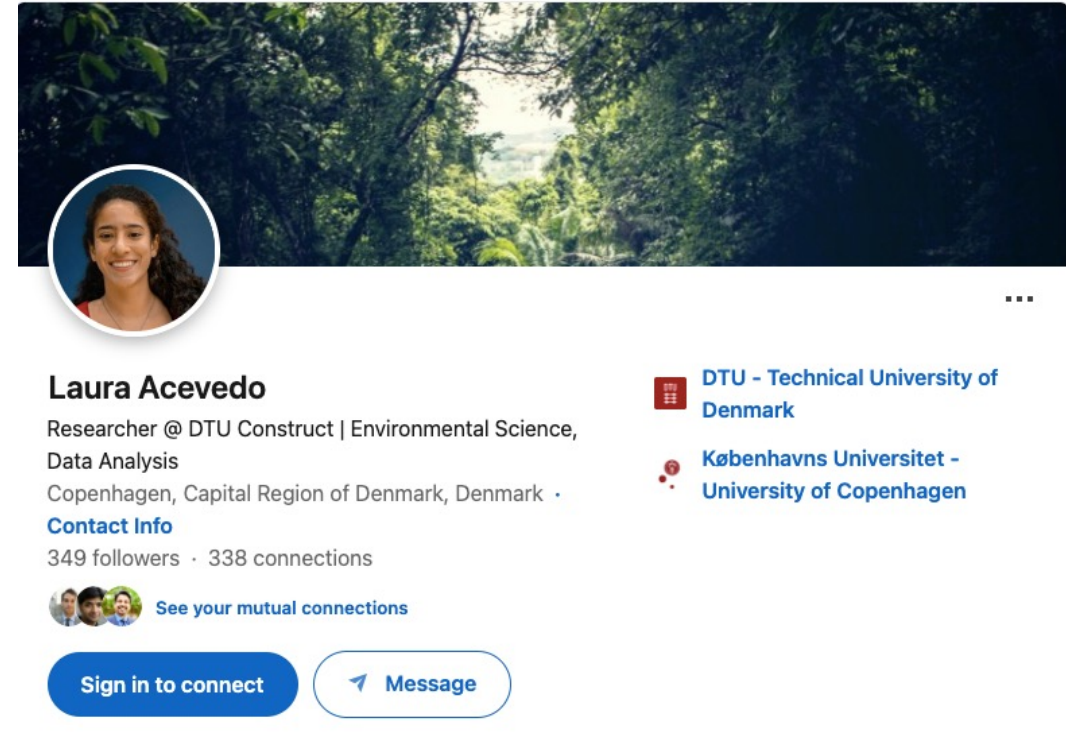
- RQ1 consisted of identifying existing philosophies across regions, sectors, company size, etc.
 - Philosophies were classified as either absolute or relative.
 - Additionally, the philosophies were compared across five key categories: societal needs, environmental aspects, social aspects, economic/organisational aspects, and business processes.
- RQ2 consists of using all this knowledge to create a tool to guide users (companies or organisations) towards specific philosophies and principles.
- RQ3 will observe how these specific philosophies and principles are translated as strategies and tools.

Any questions?

Merci!

¡Gracias!

Let's connect



The image shows a LinkedIn profile for Laura Acevedo. The profile picture is a circular portrait of a woman with dark hair, smiling. The background of the profile header is a lush green forest. The profile information includes her name, title as a researcher at DTU Construct, and her location in Copenhagen. It also shows her follower and connection counts, a link to contact info, and buttons for signing in to connect and sending a message. Two affiliated organizations are listed: DTU - Technical University of Denmark and Københavns Universitet - University of Copenhagen.

Laura Acevedo
Researcher @ DTU Construct | Environmental Science, Data Analysis
Copenhagen, Capital Region of Denmark, Denmark · [Contact Info](#)
349 followers · 338 connections
[See your mutual connections](#)

[Sign in to connect](#) [Message](#)

[DTU - Technical University of Denmark](#)
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