GÖTEBORGS UNIVERSITET
HANDELSHÖGSKOLAN

Sustainability Competence for Business students

Developing a Sustainability Competence Framework for Business Students: An Interview-Based Study

---

School of Business, Economics and Law at the University of Gothenburg
Bachelor thesis
Corporate Sustainability FEK3S5
Spring 2024
Supervisor: Gabriela Schaad
Authors:
Kerstin Quach 000402
Maria Habhab 020810
Olivia Muregård 961024

Abstract

This bachelor thesis explores what sustainability competence business students need to meet the rising demand for sustainability competence due to stringent sustainability regulations within the European Green Deal. The aim is to enhance understanding of the specific aspects of sustainability competence required for effective navigation and leadership within sustainable business environments. Using a qualitative methodology with an abductive approach, this research gathers insights from interviews with both academic experts and business professionals. The insights from interviews, combined with theoretical perspectives and established frameworks for sustainability competence, have led to the identification of key aspects of sustainability competence relevant to business students. The thesis posits that acquiring sustainability competence is vital for business students to tackle today's complex environmental and social challenges, thereby improving their long-term business effectiveness and adaptability.

The bachelor's thesis presents a sustainability competence framework for business students and includes four aspects: knowledge, skills, attitudes and values (KSAV). Each aspect also includes three dimensions. The knowledge aspect highlights awareness of how sustainability is defined at different levels: holistically, organizationally and at an individual professional level. Furthermore, knowledge in systems thinking and continuous learning are key dimensions. Key skills include interdisciplinary navigation, leadership of sustainability efforts and application of theoretical sustainability knowledge in economic practice. Core attitudes include seeing sustainability as an important part of business, being humble and open, and engaging in sustainable working practices. Within values, it is important to recognize and redefine one's personal values, value empathy and integrity, and align one's practice with one's principles. These aspects are interconnected and together provide a comprehensive understanding of key sustainability competence for business students. By integrating these aspects, business students will be better prepared to meet the increasing expectations for sustainability within organizations, ensuring their ability to contribute and lead the transition towards more sustainable business practices.

Keywords:

Sustainability competence, competence, Sustainability, Management, CSRD, CSDDD, SFRD, European Green Deal, Wicked problems, Sustainability as a wicked problem

Sammanfattning

Följande kandidatuppsats undersöker vilken hållbarhetskompetens som ekonomistudenter behöver ha för att möta den ökande efterfrågan på hållbarhetskompetens i och med strängare regleringar inom Europeiska Gröna Given. Syftet är att öka förståelsen för de specifika aspekter av hållbarhetskompetens som krävs för effektiv navigering och ledarskap inom hållbara affärsmiljöer. Kandidatuppsatsen påvisar att förvärv av hållbarhetskompetens är avgörande för att ekonomistudenter ska kunna hantera dagens komplexa miljömässiga och sociala utmaningar. Därigenom förbättras deras långsiktiga affärseffektivitet och förmåga att anpassa sig till ett föränderligt affärslandskap. Studien använder en kvalitativ metod med ett abduktivt tillvägagångssätt och baseras på intervjuer med akademiska experter och representanter från näringslivet. Insikter från intervjuer har kombinerats med teoretiska perspektiv och etablerade ramverk för hållbarhetskompetens för att identifiera centrala aspekter av hållbarhetskompetens. Sammanfattningsvis dras slutsatsen att hållbarhetskompetens är nödvändiga för ekonomistudenter.

Kandidatuppsatsen presenterar ett ramverk för hållbarhetskompetens för ekonomistudenter och omfattar fyra aspekter: kunskap, färdigheter, attityder och värderingar (KSAV). Varje aspekt omfattar även tre dimensioner. Inom kunskapsaspekten framhävs medvetenhet i hur hållbarhet definieras på olika nivåer: holistiskt, organisatoriskt och på en individuell professionell nivå. Vidare är kunskap inom systemtänkande samt ett kontinuerligt lärande centrala dimensioner. Centrala färdigheter omfattar tvärvetenskaplig navigering, ledarskap av hållbarhetsinsatser och tillämpning av teoretisk hållbarhetskunskap inom ekonomisk praxis. Huvudsakliga attityder är att se hållbarhet som en viktig del av verksamheten, att vara ödmjuk och öppen samt att engagera sig i hållbara arbetsmetoder. Inom värderingar är det viktigt att erkänna och omdefiniera sina personliga värderingar, värdesätta empati och integritet samt anpassa sin praktik efter sina principer. Dessa aspekter är sammankopplade och ger tillsammans en heltäckande förståelse för viktig hållbarhetskompetens för ekonomistudenter. Genom att integrera dessa aspekter kommer ekonomistudenter att vara bättre förberedda för att möta de ökande förväntningarna på hållbarhet inom organisationer, vilket säkerställer deras förmåga att bidra och leda till övergången mot mer hållbara affärsmetoder.

Nyckelord: *Hållbarhetskompetens, kompetens, Hållbarhet, Management, CSRD, CSDDD, SFRD, Europeiska Gröna Given, Wicked problems, Hållbarhet som ett wicked problem*

Foreword

This Bachelor thesis would not have been possible without the support and contributions of several key individuals and groups. We are deeply grateful to everyone who played a role in making this report a reality. First and foremost, we would like to express our gratitude to our supervisor, Gabriella Schaad, for their support, guidance, and encouragement throughout the entire process. We would also like to extend our sincere appreciation to all the respondents who participated in our thesis. Your willingness to share your experiences and insights provided the essential data needed for our research. Without your cooperation and honest responses, this thesis would not have been possible. Thank you all for your contributions to this thesis.

School of Business, Economics and Law at the University of Gothenburg
June 2024

Kerstin Quach
Maria Habhab
Olivia Muregård

Table of Contents

Terminology list

Business Transparency: Involves openly sharing information about a company's operations, decisions, and performance to foster trust and accountability with stakeholders.

Competence: Ability to generally understand and perform anything at a basic level. This refers to your knowledge and general state of being. As well as the ability to comprehend actions or knowledge throughout different parts of life.

CSRD: The Corporate Sustainability Reporting Directive is a new directive to ensure that companies report the effect of the business social and environmental activities.

CSDDD: Corporate Sustainability Due Diligence Directive aims to encourage sustainable and responsible behavior in corporations by requiring them to incorporate human rights and environmental considerations into their operations and governance. This ensures businesses are accountable for their impact on society and the environment.

Double Materiality: A concept in which companies must consider how their actions impact both people and the planet, but also how sustainability issues can affect their financial-wellbeing. Including both financial material and stakeholder material.

The European Green Deal: A policy that is designed to guide the EU towards climate neutrality by 2050, fostering a sustainable and resilient future for all.

ESG: Stands for Environmental, Social, and Governance, which are criteria used to evaluate the sustainability and societal impact of a company. These factors assess how a business manages its environmental footprint, relationships with stakeholders, and internal governance practices.

Science Based Targets: Science-based targets align with the latest climate science necessary to meet the Paris Agreement's goal of limiting global warming to 1.5°C. They offer companies a clear pathway to reduce greenhouse gas emissions, mitigating climate change impacts and ensuring sustainable business growth (Science based target, n.d.a)

SFRD: The Sustainable Finance Reporting Directive aims to enhance transparency by requiring financial market participants to disclose sustainability information, helping investors support sustainable projects and contributing to Europe's transition to a net-zero economy.

Skills Gap: The disparity between the skills an employer or an industry demands, and the actual skills employees possess.

Sustainability Competence: Refers to the knowledge, skills, and attitudes that enable individuals and organizations to make decisions and take actions that consider long-term environmental, social, and economic impacts, promoting a balance between development and the well-being of future generations.

Systems Thinking: Systems thinking approaches issues by viewing them as interconnected parts of a whole, considering how all components influence each other, rather than just addressing immediate problems.

Value, as Financial or Non-Financial: Here, refers to tangible and intangible values in companies and society.

Values: In terms of values in the competence framework, represents abstract and guiding principles applicable across situations

1. Introduction

In a rapidly changing world with complex interdependencies, the tension between the urgent need of corporate sustainability and the rising demand for sustainability competence is intensifying. The European Green Deal aims for Europe being the first climate neutral continent by transitioning towards a more sustainable economy (European Commission, 2024). With several new EU directives, corporate sustainability is maturing from voluntary engagement to mandatory regulations. However, corporate sustainability has been referred to as a wicked problem, meaning that the issue is characterized by a vast complexity of stakeholder interest and value conflicts (Dentonie et al, 2012). When corporate sustainability is viewed as a wicked problem, focus is put on ongoing management of challenges, rather than finding finite solutions. Similarly, Anderson et al., (2014) highlight that the effectiveness of regulatory systems for sustainability, relies on the presence of qualified professionals. Meanwhile, the lack of sustainability competence is emerging as a critical concern. In society at large, and within corporate sustainability specifically (LinkedIn, 2023). From a business perspective, the new mandatory regulations are putting pressure on the internal sustainability competence. UN Global Compact Nordic states that a knowledge gap in sustainability is one of the major challenges for Nordic companies, requiring extensive resources (UNGCN, 2023). Considering the rising regulatory pressure and complexity of corporate sustainability, attention shifts to the new generation of business students. Therefore, this thesis investigates what sustainability competence is important for business students.

1. 1 Background

This chapter frames sustainability competence for business students in three contextual themes. First, it begins with a short introduction to how sustainability issues can be understood and framed as a wicked problem. Secondly, it introduces the new requirements of mandatory sustainability reporting in the EU. Lastly, it gives an overview of the demand for sustainability competence

1.1.1 Sustainability as a Wicked Problem

Sustainability issues are characterized by challenges that span across the environmental, social, and economic dimensions, making them difficult to address comprehensively. Framing sustainability as a wicked problem highlights the intricate interplay between environmental preservation, social equity, and economic development (Ritter & Webber, 1973). Camillus (2016) discusses the concept of wicked problems within the business context. Characterizing them as complex and multifaceted challenges that emerge from the interplay of mega-forces, such as globalization and shared value. These problems are defined by their uncertainty, ambiguity, and the involvement of diverse stakeholders with conflicting priorities. A wicked problem cannot be resolved or surpassed, instead, it can merely be addressed, mitigated, or tamed. Similarly, Dentoni et al. (2012) argue that such problems are not amenable to simple solutions but require ongoing management efforts. The dynamic and evolving nature of sustainability issues further complicates the problem-solving process, as solutions must be adaptive to changing circumstances and stakeholder needs.

1.1.2 New Directives on Corporate Sustainability Reporting

The European Green Deal includes several new regulations, directives, and standards on non-financial reporting. The aim is to reach higher transparency and accountability and to shift business strategies and models towards more sustainable practices. Two impactful changes include the principle of double materiality, as well as the need for connectivity between financial and sustainability aspects (Baümuller & Sopp, 2021). The CSRD follows the overarching principle of double materiality. The principle states that the company must analyze and disclose both the financial impact of sustainability-related risks and opportunities, as well as the impact the company has on non-financial sustainability dimensions. European Sustainability Reporting Standards, ESRS, includes both cross-sectoral standards and sector-specific standards. It has five environmental topics, four social topics, and one topic on corporate governance (European council, 2023). This directive is closely related to the Corporate Sustainability Due Diligence Directive (CSDDD). The CSDDD sets out a mandatory duty to account for adverse human rights and environmental impacts in operations, value chains, and subsidiaries. This includes due diligence on identifying, preventing, mitigating, and bringing to an end adverse impacts (European Council, 2024). Similarly, the Sustainable Finance Reporting Directive (SFRD), requires financial market participants and financial advisers to publish policies on the integration of sustainability risk. SFRD requires disclosure of both 'outside-in effect' and 'inside-out effect. The outside-in effect refers to sustainability risk. This is defined as an event or condition, environmental, social, or governance-related, that could cause a negative material impact on the financial value of investments. The inside-out effect refers to Principal Adverse Impacts (PAI). This concerns the firm's negative consequences on sustainability factors such as environment, climate, and human rights (European Commission, 2023).

1.1.3 Increased Demand for Sustainability Competence

There are several understandings of what sustainability competence is, and the term is often used as an umbrella term. The European Commission has defined sustainability competence as competency geared towards equipping individuals with the necessary knowledge, skills, and attitudes to think, plan, and act in harmony with sustainability principles, fostering a lifestyle that is in alignment with the planet's needs (European Commission, 2022). The thesis uses an inclusive understanding of how the private sector is referring to sustainability competence, including both green skills, sustainability knowledge, social experience, and environmental education, among others. According to LinkedIn's Global Green Skills Report (2023), based on data from over 900 million users, the demand for talents with green skills is increasing faster than the supply of green talents. Their data shows that while the share of job posting that requires green skills grew 22%, the share of green talent only grew 12% (Linkedin, 2023). UN Global Contact Network Sweden (GCNS) is the largest national cooperation network on business sustainability. According to their survey done in 2022 of 876 large, small- and medium-sized companies from different sectors, only half of the companies believed that they had sufficient internal competence to transition their business.

2. Problem Analysis

This chapter explores how increased regulatory pressure on corporate sustainability is changing the kind of competence that is needed within the business sector. The problem analysis aims to connect the wickedness of corporate sustainability with the urgency of sustainability competence. The analysis starts with framing the complex challenges in the new directives through the concept of wicked problems. Further, it explores how the external pressure relates to various internal challenges in the business sector and in business schools.

2.1 Wickedness in Corporate Sustainability Reporting

The increased regulatory pressure on corporate sustainability reporting in the EU aims to make Europe the first climate neutral continent, and safeguards its competitiveness (European Commission, 2024). However, several features of the directives create challenges in practice (Baümuller & Sopp, 2021). To understand the internal competence challenge posed by the directives, it is crucial to understand their complexity. Therefore, this business challenge can be clarified through the lens of wicked problems. Camillus (2008) discusses the concept of wicked problems within the business context and sets out five characteristics that can illuminate a wicked business problem. The five characteristics are highlighted in italics.

The first characteristic of a wicked business problem is that the perceived problem is unusual or unprecedented (Camillus, 2008). Even if several voluntary and national regulations have increased the need for sustainability reporting, the EU's introduction of new legal requirements and mandatory considerations of sustainability values is unprecedented in its scope (Baümuller & Sopp, 2021). Specifically the principle of double materiality, as well as the need for connectivity between financial and sustainability aspects, the 'inside-out' and 'outside-in' perspective (European Commission, 2023). Hence, the combination of several new and mandatory reporting directives can be considered an unprecedented problem.

The second characteristic of a wicked business problem is that multiple stakeholders are affected, each with conflicting values and interests (Camillus, 2008). Sustainability reporting is aimed at increasing accountability, and legitimacy, and reducing risk across the value chain. Similarly, the new directives both shed light on the conflicts of different sustainability values within corporate sustainability, and the complexity of stakeholder interests throughout the value chain (Baümuller & Sopp, 2021). This is particularly pertinent to the CSDDD directive. The directive sets out a mandatory duty to account for adverse human rights and environmental impacts in operations, value chains, and subsidiaries (European Council, 2024).

The third characteristic is that the problem has multiple intertwined causes. This includes historical factors and prevailing contemporary structures that define what companies are and can achieve (Camillus, 2008). It can be argued that the move towards double materiality is challenging the traditional roles of companies in society. Specifically since it requires both financial perspectives, and stakeholder perspectives to be integrated in the reporting. This also corresponds to the requirement in the SFRD directive to include both an inside-out

perspective, as well as the outside-in perspective in finance (EU Council, 2024). The need for interconnectivity between financial, social and environmental values is further highlighting the need for an integrated view of corporate sustainability. This is a development of previous voluntary sustainability reporting that has been mainly voluntary and less specific (Baümuller & Sopp, 2021). To have an integrated view of different sustainability values has been highlighted by Rockström et al. (2023), who identifies businesses as a key actor to avoid loss of earth system stability. They discuss the interdependencies between the Earth system's stability and resilience, and human well-being. They argued that these connections are frequently addressed separately, underscoring the critical need to move beyond traditional metrics. Hence, this indicates that it is not only sustainability reporting in businesses that is challenged in how to address and evaluate sustainability. Rather, there are different structures in society that intertwine and contribute to the wickedness of the problem.

The fourth characteristic that Camillus (2008) states is that when solutions are proposed and evaluated, our understanding of the problem evolves. Similarly, the development of new reporting directives in the EU has followed reevaluation of previous ones as they have been put in practice (Baümuller & Sopp, 2021). Researchers on ESG posit that when the logic of double materiality in reporting is integrated into business operations, businesses can increase their contribution to global sustainability concerns (Delgado-Ceballo et al, 2023). Nevertheless, the new directives pose a practical challenge for businesses and their employees in establishing appropriate sustainability processes and systems. The practical implication includes increased costs of new processes, and increased need to understand the connectivity of a company's economic, ecological, and social performance (Baümuller & Sopp, 2021).

The fifth characteristic states that determining the best or correct solution remains elusive (Camillus, 2008). As previously mentioned, researchers on ESG posit that integrating the logic of double materiality, can increase businesses contribution to global sustainability (Delgado-Ceballo et al, 2023). Rockström et al (2023) mentions the difficulty in different actors adhering to different likelihoods of sustainability risk, even when setting science-based targets. This illuminates the various understanding of what level of actions are needed. As Baümuller & Sopp (2021) argues, the move towards sustainability reporting is a result of political shifts, whether those working in corporations will be able to live up to the new requirements or not, is still to be seen. Thus, with several new directives, assessing whether they are too complex in practice, whether reporting actually can drive internal change, and if they risk causing greenwashing, remains a challenge.

In summary, the new mandatory sustainability regulations can be seen as processes that reflect the wickedness of corporate sustainability processes. Once again, as Camillus (2008) argues, problems that fit these characteristics are not amenable to simple solutions but rather require ongoing management. Camillus (2016) also emphasizes the critical role of competence in addressing wicked problems. He underlines that organizations need to identify, acquire, or develop the necessary skills and capabilities to foster innovation, adapt to new technologies, and maintain effective stakeholder engagement (Camillus 2016). This brings the challenge of external, regulatory pressure towards an internal organizational perspective of competence.

An issue that is developing alongside the external challenge of regulations is the increased demand for sustainability competence.

2.2 Sustainability Competence in the Business Sector

Considering that the directives of the European Green Deal aim to transition business practices towards a sustainable economy, it is key that the implementation of new directives leads to integration of sustainability in the business sector. Andersson et al (2014) highlight that while governmental bodies play a pivotal role in shaping regulatory frameworks, setting standards, and ensuring compliance, the effectiveness of these systems hinges on the presence of suitable, qualified, and experienced individuals. Such professionals are critical in assuring both governments and industries meet and follow the established sustainability standards (Andersson et al., 2014). This is an issue that the EU commission acknowledged in their 'Progress Report on Greenwashing' (2023). The report lists a lack of expertise and skills in sustainability information in reporting as an underlying driver of greenwashing. Mainly since this risks causing misleading sustainability claims. An issue that is believed to gradually decrease once the relevant skills and expertise have been identified (ESMA, 2023).

From a Nordic perspective, the UN Global Compact Nordics (2023) review of corporate sustainability found that companies experience a sustainability knowledge gap. They view it as one of the major challenges in transitioning their practices (UN GCNN, 2023). From a Swedish perspective, the results of Global Compact's Transition report (UN GCNS, 2022) show that increasing new regulation and reporting standards is seen as a demanding challenge among Swedish businesses. Primarily due to the resources that the interpretation and integration processes require since they need expertise from many different departments. The report also calls attention to the cost of new competence and resources related to sustainability reporting. About 30% of the 876 companies in the survey say that they need external support to educate their employees on sustainability and to understand standards & certifications. Similarly, 40% state that they need external support to unify sustainable development with economic targets. To connect the core business activities with sustainability is specifically highlighted as a challenge. Especially in making sustainability concrete and applicable within different parts of the organization (UN GCNS, 2022). Hence, the new reporting directives and the larger organizational question on how to unify and integrate sustainability with the economic goals are seen as practical challenges. Whilst this survey showed that the competence lack is managed by taking in external consultants, the need to educate employees internally is also highlighted.

The lack of sustainability competence is a global problem that extends outside of the European context. Microsoft and Boston Consulting Group studied (2022) 15 international companies with sustainability commitments. The report highlighted that the sustainability challenge is different from other business transformations, such as digitalization, since it entails adapting to natural laws within an urgent timeframe. They divided what they refer to as a 'sustainability skills gap', into two broad categories: new positions specialized for sustainability, and existing roles that now require sustainability skills. One key insight was that virtually all workers are expected to need basic sustainability fluency, not only the

sustainability specialized roles. According to the report, 68% of the studied companies hired their sustainability leaders internally, despite a general lack of formal sustainability education. Further, 60% of the sustainability team members did not hold any expertise in sustainability when joining. Instead, talented insiders were up-skilled to perform the most critical sustainability work. However, the report states that upskilling internally is not a sufficient strategy to meet the need for sustainability skills, since it is not scalable (Microsoft, 2022).

2.3 Sustainability education in Business schools

Due to increased regulations on sustainability and the changing role of businesses in society, businesses need new kinds of competence to navigate sustainability. These changes also have implications for the expectations of business graduates. This puts business schools in focus. Particularly in understanding and integrating the interconnectivity of financial and non-financial values in businesses. Previous research shows that with an increasing external demand to include such perspectives, business schools face many challenges. In a literature review of scientific research on the subject Dyllick (2015) asks the question: for whom do business schools create value? The author has gathered several challenges in integrating sustainability in business schools internationally, among these are the following. 1) A narrow focus on functional knowledge rather than integrative thinking. 2) Dominating logic of the market as opposed to a plurality of values and logic in our society. 3) A dominance of amoral theories and a missed focus on the importance of ethics and values in practical challenges. From a practical point of view, Ryan & Tilbury (2011) problematize the issue of current curriculums functioning like knowledge packages based on jobs that exist today but not necessarily in the future. Further, Tsui & Dragicevic (2018) highlight the tensions in business education to include what we already know, whilst also teaching capabilities to handle and adapt to the unknown unknowns.

2.4 Problem Formulation

In summary, insufficient sustainability competence has several consequences. They range from increased costs for businesses, and an impaired ability to accelerate their efforts, to the sustainability risk of delayed action. Even if businesses are willing to upskill their internal resources and learn alongside the regulatory changes, this is not deemed scalable or sufficient. In light of this, there is an increasing responsibility on business schools. Particularly, to educate business graduates that can navigate the complexity of non-financial values ethically and responsibly. The demand for sustainability competence is a global issue that intensifies with new EU regulations. The urgency of corporate sustainability is reshaping the competence requirements within the business sector, and thereby for business students. Considering the wickedness of corporate sustainability, and the dire consequences of delayed action, distinguishing tangible sustainability competence appears crucial. There is extensive research on general sustainability competence, and frameworks for sustainability graduates. However, there is a research gap in understanding the specific sustainability competence needed by business students in light of the new EU regulations. Therefore, it appears important to identify what sustainability competence is deemed essential by relevant stakeholders that are addressing corporate sustainability questions in a Swedish context.

3. Purpose

The thesis aims to create knowledge on what sustainability competence is considered crucial for business students from the perspectives of academic experts and business professionals in a Swedish context. The objective of the thesis is to create a framework that provides a foundation for sustainability competence relevant for business students.

3.1 Research Questions

I. What sustainability competence are essential for business students according to business professionals and academic experts in Sweden?
II. How do new sustainability requirements drive the need for sustainability competence for business students?

3.2 Delimitations

This thesis narrows its focus to the perspectives of a select group of stakeholders in Sweden emphasizing the sustainability competencies that they deem essential.

Another assumption articulated in the thesis is the variability of relevant competence across different industries, organizational levels, and regions. Sustainability competence is explored in light of the regulatory pressure within the EU. However, given the evolving nature of sustainability regulations, the thesis addresses sustainability competence within the broader context of businesses' sustainability transitions, rather than the specific regulations.

3.3 Chapter Disposition

The remainder of the thesis is structured as follows: Chapter 4, Theory, explores research on sustainability competence, defining it through knowledge, skills, attitudes, and values, and presents established competence frameworks. Chapter 5, Method, details the research design and procedures, data collection and analysis methods, ethical considerations, and study limitations. Chapter 6, Results, presents empirical findings from interviews with business and academic stakeholders, following the operational definition of competence, with a synthesis at the end. Chapter 7, Analysis and Discussion, interprets findings in relation to theoretical frameworks, discusses key dimensions of sustainability competence, integrates findings into a new framework for business students, and examines practical relevance. Finally, Chapter 8, Conclusion, summarizes key findings, underscores the importance of sustainability competence, answers research questions, reflects on limitations, and suggests future research directions.

4. Theory

This section delves into current research on sustainability competence. It begins with theoretical perspectives on sustainability, wicked problems, and competence. Then four aspects of the sustainability competence concept are defined as; knowledge, skills, attitudes and values. These are further elaborated on, and used as the operational definition of competence in this thesis. Lastly, established sustainability competence frameworks are presented to offer a broader understanding of sustainability competence. Everything in this section is presented to create a well-rounded understanding of sustainability competence and its application in diverse contexts.

4.1 Previous Research

Much research has been dedicated to defining and elaborating on sustainability competence, particularly within the context of educational programs. A notable contribution to this field is Salovarra's (2019) article, 'Sustainability Science in Education: Analysis of Master's Programmes' Curricula.' The study analyzed 45 master programs related to sustainability science, it highlighted the critical importance of key competence in shaping sustainability education. Salovarra's research identified that the commonly suggested competence in the curricula included systems thinking competence, anticipatory competence, strategic competence , interpersonal competence, and normative competence. Additionally, the study revealed three distinct clusters of competence considered equally crucial: diverse modes of thinking, methodological plurality, and competence for autonomy. The findings emphasized the significance of well-rounded sustainability competence that advance sustainability education and ultimately, refine the discipline of sustainability science.

Annelain and Boström (2022) emphasize in their article the critical importance of assessing Key Sustainability Competence (KSCs) in education geared towards sustainability. They advocate for the development of formative assessment tools that accurately assess students' experiences prior to designing educational activities. The report critiques the current lack of cross-disciplinary validation in existing assessment tools and proposes the creation of a comprehensive tool that encompasses all eight KSCs to significantly improve sustainability education. The authors explore how these competencies interact and influence one another, proposing directions for future research aimed at refining assessment methodologies in higher education's sustainability programs.

4.2 Sustainability

Sustainable development is outlined by the United Nations Federation (2015), as the principle of fulfilling current needs without hindering future generation's capacity to meet their own. This concept underscores the critical need for current populations to adopt sustainable living practices, thereby ensuring that future generations inherit the same capability. Sustainability demands prioritizing the well-being of all life forms and the planet, necessitating human activities to remain within the Earth's planetary boundaries. The European Commission (2022) identifies these boundaries in terms of human actions, particularly those involving fossil fuel consumption, that cause or accelerate detrimental changes to the planet. Sustainable

development is dissected into three interconnected dimensions: economic, social, and ecological.

These dimensions serve as crucial foundations for the formulation of global objectives, as they incorporate the principles of sustainability, inclusivity, and equitable progress for all into the goals. In pursuit of these objectives, the United Nations instituted Agenda 2030, a comprehensive plan featuring 17 sustainable development goals. Agenda 2030 calls for a collective effort from all nations and peoples to achieve these goals, marking a pivotal step towards a universally sustainable and equitable future (United Nations Federation, 2015). In this thesis the definition of sustainability also includes an understanding of sustainability as a wicked problem. Next section explains the definition of wicked problems.

4.3 Wicked Problem

Wicked problems are complex, multifaceted issues that defy straightforward solutions due to their interconnected nature, diverse stakeholders, and evolving characteristics (Rittel & Webber, 1973). These problems lack clear problem definitions, have no definitive solutions, and involve high levels of uncertainty and ambiguity. Alford and Head (2017) identified wicked problems as involving structural complexity, knowability issues, knowledge fragmentation, knowledge framing, interest differentiation, and power distribution. The problems are characterized by their high complexity, ambiguous causes, and the difficulty in framing them.

Camillus (2008) further supports this view by asserting that wicked problems cannot be solved, they can be tamed, highlighting the challenges strategists face and their frequent lack of preparedness for such issues. To effectively handle wicked problems, the primary goal should be to develop a mutual and shared understanding among stakeholders and to build a collective commitment to explore viable solutions. While consensus on the exact nature of the problem may not always be achievable, stakeholders must grasp each other's viewpoints sufficiently to engage in meaningful discussions and collaborative efforts toward addressing the problem. Moreover, companies often recognize shareholders and customers as key stakeholders; however, employees play a pivotal role. Their tacit knowledge and engagement are instrumental in forging innovative strategies (Camillus, 2008).

4.4 Competence

Hager and Gonczi (1996) define Competence as an integrated ability that encompasses knowledge, skills, attitudes, and abilities, all demonstrated in the execution of professional tasks. Further they underscore the significance of combining attributes with tasks within a realistic professional context. They discuss that competence exceeds the mere task completion, it contains strategic planning, adaptive response to new challenges, and management of comprehensive work aspects. Thus, competence transcends a simple aggregation of desirable qualities such as appropriate knowledge, problem-solving and analytical skills, effective communication, and pattern recognition, and also includes the

adoption of appropriate attitudes. Within the integrated framework, competence is defined and characterized by demonstrating knowledge, abilities, skills, and attitudes across a series of realistic professional tasks chosen for their relevance and breadth (Gonczi et al., 1990; Hager, 1994). Delamare Le Deist and Winterton (2005) further expand the definition, examining the evolution of the competence concept across various cultures towards a more integrated view. They propose a multidimensional framework that not only captures functional and cognitive competence but also behavioral competence that enables individuals to perform effectively in various situations.

4.4.1 Sustainability Competence

The increasing importance of sustainability underscores the significance of developing the appropriate competence for handling sustainable development. The competence extends beyond mere knowledge acquisition, encompassing the integration of ethical judgment, systemic thinking, and forward-looking perspective. Barth et al., (2007) and de Haan (2006) emphasize the importance of competence such as critical thinking, ethical understanding, and participatory skills, as they are essential for fostering sustainable development. The global competence framework (2018) defined sustainable competence as a combination of four aspects: understanding perspectives, problem-solving, the interaction between cultural differences, and taking action. Each aspect is underpinned by specific knowledge, skills, attitudes, and values, essential for effective sustainability practices.

4.4.2 Knowledge

Knowledge encompasses various perspectives and definitions. It is considered a crucial resource for companies as it impacts enterprise development significantly. Knowledge encompasses both theoretical and practical understanding, manifesting implicitly as practical skills or expertise, and explicitly as a deep theoretical understanding of a subject. Obtaining knowledge requires complex cognitive processes such as perception, communication, and reasoning, which are closely tied to the human capacity for acknowledgment and comprehension based on information. Knowledge is best understood as familiarity, awareness, or understanding of someone or something, such as facts, information, descriptions, or skills, gained through experience or education by perceiving, discovering, or learning (Lin, 2019).

Furthermore Venn et al. (2022) categorized knowledge into three distinct categories to enhance the understanding of its multifaceted nature. Lived experience refers to the knowledge that emerges from daily interactions, active participation in experiences, interactions with others, and reactions to various events, all shaped by the surrounding context. This form of knowledge enriches scientific understanding by offering practical insights into what is effective in real-world scenarios. The concept holds significant value especially when it comes to demonstrating legitimacy and gaining public acceptance and endorsement for various interventions. In sustainability, topical knowledge refers to the understanding and knowledge of a certain sustainability topic. This type of knowledge is typically acquired through formal education and vocational training, though it can also be

gained through self-directed learning. For professionals in the sustainability field, such knowledge often constitutes the foundation of their work. While topical knowledge itself is distinct from competency, following the reasoning of Brundiers et al. (2021), it is essential to recognize that this knowledge should be woven into competency frameworks to enhance professional practice in sustainability. Furthermore, there's an underlying emphasis on the importance of ongoing learning to adapt to new challenges and advancements within the field. Lived experience and topical knowledge mutually enrich each other as an integrated learning competency binds them together. It is emphasized that individuals in the sustainability field's theoretical and practical knowledge evolve through action in the field as well as keeping up with the latest literature. Scientific facts and field experiences are constantly matched and evaluated in an integrated learning process (Venn et al, 2022).

4.4.3 Skills

Skills are defined as the ability to perform tasks competently, acquired through educational and practical experience. Attewell (1990) categorizes skills into cognitive, technical, and interpersonal types, emphasizing their dynamical, practical, and evolving nature. Skills play a crucial role in work performance and job satisfaction, underscoring their significance in the labor market. Thomas (2018) lists essential skills as good communication, project management, interpersonal skills, judgment, decision-making, a scientific approach, teamwork, initiative, enterprise, and computer skills. Similarly Kearins & Springett (2003) identify that a pivotal skill set for environmental management includes reflexivity, critique, and engagement in social actions. Cultivating the appropriate skills is crucial for enabling individuals to develop essential competencies as sustainability change agents, including critical thinking, confidence, leadership, and problem-solving capabilities (Heiskanen et.al, 2016).

4.4.4 Attitudes and Values

To meet global sustainability goals, it is crucial for individuals to significantly change their values, attitudes, and behaviors according to Bonnet (2002). Attitudes encompass individual likes and dislikes towards any assessable entity, concrete or abstract. In contrast, values represent abstract, guiding principles applicable across situations. Although both are crucial psychological constructs, they differ significantly: attitudes are specific and can be positive or negative, while values are broadly positive and more integral to one's self-concept (Hanel et al., 2021). Embracing attitudes and values that prioritize sustainability is fundamental, highlighting the importance of fostering a mindset that values conservation, preservation, and a deep connection with nature. Such attitudes and values are crucial for promoting effective sustainable practices and propelling positive change. Living by these values results in individuals contributing to sustainability movements, driving efforts toward achieving global sustainability goals through their actions and decisions (Bonnet, 2002).

Furthermore, Bonnet (2002) underscores the necessity for sustainability experts to adopt attitudes characterized by openness, empathy, and collaborative spirit to navigate the intricate

challenges of sustainable development effectively. Cultivating a mindset that prioritizes inclusivity, diversity, and ethical mindfulness enables these professionals to play a pivotal role in steering society towards a more sustainable and just future. The attitudes and values that are held are integral for the ability to drive meaningful change, promote sustainable practices, and inspire others to adopt a mindset that prioritizes the well-being of the planet and its inhabitants (Bonnet, 2002).

4.5 Sustainability Competence Frameworks

The following sections present two established competence frameworks: the Key Sustainability Competence Framework and Green Comp, the European Competence Framework. These frameworks will serve as foundational elements in the analysis and discussion chapter.

4.5.1 Green Comp: The European Competence Framework

The GreenComp is a reference framework for sustainability competencies that the European Union has provided to set a common ground for guidance and learners to educate and advance the definition of what sustainability as a competence entails (European Commission, 2022). The framework consists of 12 competencies that are organized into four competence areas that correspond to the definition of sustainability (European Commission, 2022):

- **Embodying sustainability values, including the competencies:** Valuing sustainability, Supporting fairness, Promoting nature
- **Embracing complexity in sustainability, including the competencies:** Systems thinking, Critical thinking, Problem framing
- **Envisioning sustainable futures, including the competencies:** Futures literacy, Adaptability, Exploratory thinking
- **Acting for sustainability, including the competencies:** Political agency, Collective action, Individual initiative.

All of the 12 competencies in the framework apply to all learners, irrespective of their age and their education level, and in any education setting, informal and formal. The competencies are all equally important: learners are encouraged to develop all of them while they also are interrelated and interconnected, and should be treated as parts of a whole (European Commission, 2022). A more detailed description of each area and framework is presented in Appendix A

4.5.2 Key Sustainability Competence, a Unified Framework of Competencies for Advancing Sustainability Transformations

In their 2021 study, Wiek and Redman developed a comprehensive framework that defines eight key sustainability competencies, categorizing them into five established and three emerging competencies. This framework is further supported by a diverse set of competencies that span disciplinary, general, and specialized professional domains, creating a holistic educational model. Designed to be interdisciplinary, the framework serves as a crucial guide for faculty, students, and practitioners, aiming to facilitate collaborative and sustainable

transformations. The framework's competencies are not merely a selection but need to be effectively integrated to drive substantial sustainability changes. It underscores the importance of systems-thinking, futures-thinking, values-thinking, and strategies-thinking, which are crucial for planning. These are augmented by implementation competencies essential for practical execution. Additionally, interpersonal and intrapersonal competencies are emphasized as critical for fostering a collaborative and self-aware approach, which is pivotal for success. Integration competence is highlighted to ensure a seamless merging of efforts (Wiek & Redman, 2021). Wiek and Redman (2021) further enhance this model by integrating complementary competencies across two dimensions: disciplinary competencies that provide specialized expertise and general competencies, such as critical thinking and creativity. These are complemented by professional skills, including responsive project management, which together bolster the core competencies necessary for facilitating sustainable transformations.

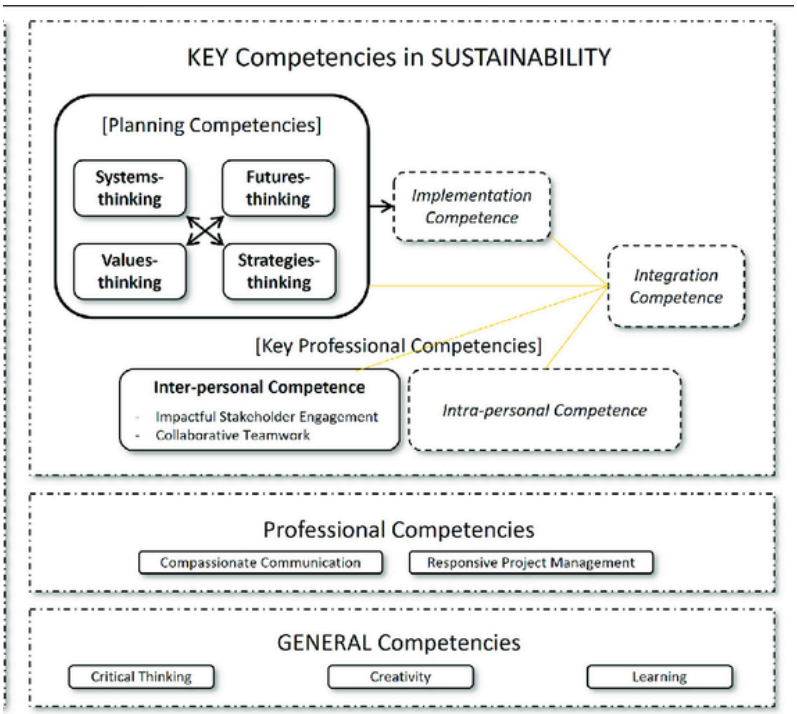

Figure 1: Key Sustainability Competence, a Unified Framework of competencies for advancing sustainability transformations (Wiek and Redman, 2021)

4.6 Theoretical Framework

The theoretical framework identifies potential building blocks to investigate and define relevant sustainability competence for business students. Based on the theoretical understanding of competence, the theoretical framework for the study is structured around four core elements: knowledge, skills, attitudes, and values. Collectively they can define the different aspects of competence required for effective sustainability action. By integrating insights from various representatives from business and academia, the proposed framework allows for a practical understanding of sustainability competence. Whilst the four core aspects are used as structure for the interviews, the established sustainability frameworks are used to give nuance and transdisciplinary insights of the result. Whilst the four core aspects are used as structure for the interviews,the established sustainability frameworks are used to give

nuance and transdisciplinary insights of the result. This comprehensive approach ensures that different aspects of sustainability are considered, facilitating a well-rounded understanding and application in diverse contexts.

Even if the concept of 'competence' and 'competencies' are often used interchangeably in practice, the theoretical distinction between them can be clarified. Particularly since Green Comp (2022) and KSC's (2021) uses both, and consists of different 'competencies', whilst this thesis adheres to the concept of 'competence'. Competencies can be understood as the specific, individual components that together make up overall competence. Meanwhile, competence can be understood as the overarching ability to perform tasks and roles to a certain standard (Eraut, 1998). In this thesis, to a certain sustainability standard. The motivation behind using competence divided into four aspects, has two main reasons. First, the study aims to investigate overarching sustainability competence for business students, rather than competencies for specific, future professional roles. Hence, the aspects aim to be relevant across various professional roles and industries. Secondly, their division into aspects clarifies their interconnectedness and practical applicability. Similarly, a distinction has been made between values and attitudes, which are often mentioned interchangeably in the literature (Bonnet, 2002). However, within the framework, a clear differentiation is made: while both are crucial psychological constructs, attitudes are specific and can be either positive or negative, whereas values are generally positive and more integral to one's self-concept (Hanel et al., 2021). Since business education often lacks consideration of values and ethics (Dyllick, 2015), values are included.

The framework demonstrates how the study uses insights from the business sector, academic experts, and existing competence frameworks. This framework serves as the conceptual foundation for the entire thesis, ensuring a cohesive and structured analysis of sustainability competence for business students.

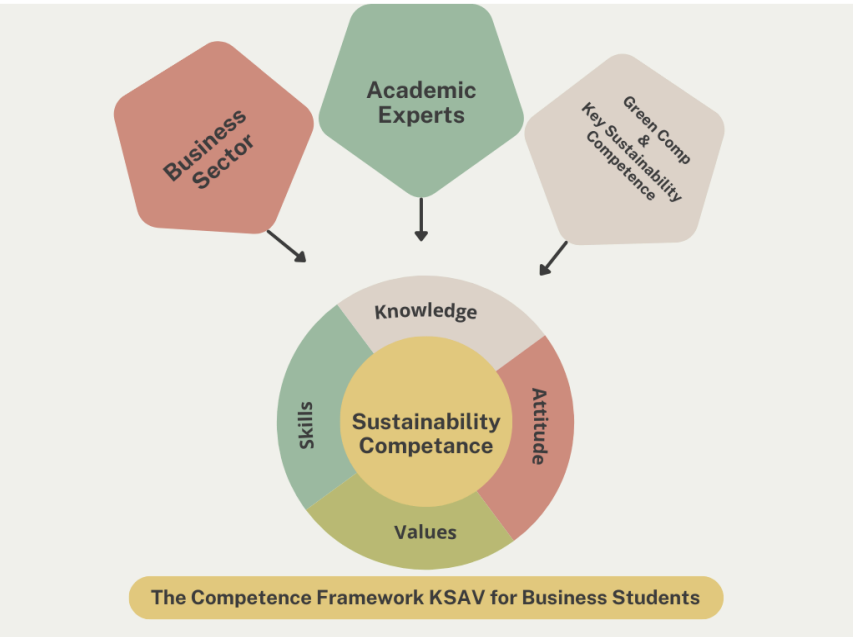

Figure 2: Theoretical framework for this thesis by the authors.

5. Method

This chapter delves into the qualitative research methods employed to answer the central questions of the thesis. It outlines the approach taken to gather and analyze empirical data, focusing on the integration of in-depth interviews with key stakeholders and a comprehensive review of existing literature. The methodological framework is designed to capture the nuances of sustainability competencies crucial for meeting the evolving demands of the EU sustainability directives. Additionally, ethical considerations and the rationale behind participant selection are discussed to ensure transparency and integrity in the research process.

5.1 Research Method

To effectively and efficiently answer the research questions of this thesis qualitative research methods were employed to collect empirical data. This method was chosen because it focused more on the relationship between theoretical frameworks and practical applications (Bryman & Bell 2017). In addition, the complexity of the research questions required qualitative research methods to be able to collect detailed information based on different perspectives to compile a framework regarding sustainability competence. Therefore, the thesis had interviews with a small selection of relevant stakeholders as the primary source. Furthermore, insights from previous research was used to create a deeper perspective for this report's necessary analysis. Involving a thorough review of existing literature to further understand relevant theories. The knowledge gathered from the existing literature and theories together was integrated with the empirical data to give a more comprehensive understanding and nuanced exploration.

The definition of sustainability competence used in the interviews is limited to four aspects: Knowledge, Skills, Attitudes, and Values. This decision was made due to the limited scope of the thesis, and to enhance the quality of the interviews. Since there are many different definitions and understandings of what competence is in a practical business setting, a lean definition in four aspects was assumed to give more specific answers. Further, the intention was to let the interviewee make a wider interpretation of competence whilst maintaining the same structure in all interviews. This decision also arose from a desire to avoid putting too much emphasis on the theoretical angle of the topic and rather focus on the practical aspects. These were the methodological steps used for the thesis:

1. The initial step involves formulating general and broad research questions. These questions are deliberately kept general to avoid drawing specific conclusions prematurely, allowing for a comprehensive exploration of the research topic.
2. Choosing the most relevant stakeholders, theories and previous research
3. Collecting empirical data by performing interviews that lasted between 30 to 60 minutes
4. Analyzing the collected data
5. Combining the data with literature and established frameworks in the field, to create a tentative framework of sustainability competence for business students.

5a. Creating more specific research questions that are more suited for the thesis

6. Report findings

5.2 Abductive Method

For this thesis, an abductive method has been employed to get a deeper understanding of the issue making our analysis more nuanced and broader. Though the inductive method is usually used for studies conducted with a qualitative research method, this study used the abductive method since it is a mixture of deductive and inductive methods (Alvession & Sköldberg, 2008). The foundational approach of the abductive method is to begin with making observations of already existing understanding and does not necessarily aim to seek the whole truth but rather the most plausible explanation (Alvession & Sköldberg, 2008). The abductive method allows for a dynamic interplay between the collected empirical data and the different theoretical frameworks we have collected. Especially in framing the data collection process based on theory on competence, and then analyzing the data with established frameworks on sustainability competence. This led to deeper reflection and analysis, and enhanced the depth and breadth of the analytical outcomes.

5.3 Literature Review

Most sources have been retrieved from university resources such as SCOPUS. Primarily, well-cited articles from academic journals with higher rankings have been preferred over less-cited articles as well as peer-reviewed articles. Various keywords were used to find sources. The most commonly used were sustainability competence, competence for business students, wicked problems, non-financial reporting and the European green deal. The literature has served as foundational sources, enabling an in-depth exploration and comprehensive understanding of the issue from theoretical and previous perspectives. The review would facilitate the development of our own conceptual framework and innovative ideas.

5.4 Selection of Participants

Based on the problem analysis, relevant stakeholders have been carefully identified and selected based on their potential insights on the issue. Given the constraints outlined in the report, the scope has been specifically narrowed to include two critical stakeholder groups, business professionals and academics experts. Further, convenience sampling was used, meaning that the availability of respondents influences their inclusion (Bryman & Bell 2017). Hence, the individual respondents have been chosen based on professional relevance, and their availability to the researchers. Appendix B. includes comprehensive descriptions and categorizations of the participants, along with specifics about the interviews. The stakeholders chosen for interviews are as follows:

Business Professionals: These professionals are individuals that hold different positions in various parts of the business sector, encompassing a wide range of roles. The intensification of legislation and regulations concerning sustainability has compelled organizations to make substantial adjustments. It also highlights the need to develop new competence among newly hired employees, particularly recent graduates. Business professionals are tackling the

challenges of regulation as they evolve. As a result, the practical insights of business professionals regarding the essential competence that business students must acquire are therefore seen as important.

Academic Experts: Experts hold a crucial role in imparting relevant and critical knowledge to students within their fields of study. Their deep expertise not only broadens students' academic understanding but also shapes their career trajectories. In the rapidly evolving area of sustainability, experts must continuously update their knowledge base. The interviews in this thesis are designed to give a deeper insight into the perspectives of experts on the key sustainability competence that business students need to develop before embarking on their professional careers. Therefore making the academic experts insights and opinions an essential part of our thesis.

These stakeholders were believed to give the best representation and the broadest perspective on this issue providing the most relevant information to answer the research questions. The sample size holds great importance and the goal is to gather as much opinions and information from all parties as possible. Considering the scope of the study and the time constraint, eight interviews were held, four business professionals and four academic experts. To ensure an equal number of representatives from the two stakeholders was important to balance their perspectives and influence on the result of the study.

5.5 Interviews

The interviews were semi-structured, incorporating a pre-determined set of open-ended questions, as well as the opportunity for the interviewer to pose supplementary questions based on the participants' response. The reason for this is to be flexible and adaptive to all participant’s answers allowing depth and contextual understanding for their answers (Bryman & Bell 2017). The question used in the interviews would be based on the four aspects of sustainability competence: knowledge, skills, attitudes and values, this concept was presented to all participants as an introduction to the interview. More details of the questions are shown in Appendix C. The progression of each interview varies, with some participants receiving different questions based on their initial responses and the supplementary inquiries that follow. However, it was crucial to ensure that no leading questions were posed, as this could bias the participants' responses. Throughout all interviews, the research ethics framework was maintained to guarantee the interview's ethical rights and increase the legitimacy of the interviews. Each interview was approximately 50 minutes, ensuring that all stakeholders had an equal opportunity to respond to the questions.

The interviews were divided as evenly as possible between all three researchers. Each interview was hosted by at least two researchers, to ensure comprehensive coverage without necessitating the presence of all three on every session. However, recordings were provided to the researchers who did not attend the interview for information analysis. Each interview was transcribed to make sure that nothing was missed out from the notes taken during the

interviews. This division of labor aimed to maximize the availability of the researchers for interview participants, as requiring all three researchers to attend every interview would significantly limit the number of possible interviews.

5.6 Processing and Analysis of Data

The theoretical framework shown in figure 2 (presented on…) was designed to establish the sustainability competence framework for business students. As part of this, to analyze the collected data, a framework analysis for qualitative data as described by Ritchie & Spencer (1994), was applied and customized to this thesis. The process systematically follows five distinctive yet interconnected steps to organize and analyze the data. As Ritchie & Spencer highlight, even if it is a disciplined process, it does rely on the conceptual and creative ability of the analyst. Meaning that it requires a process of determining meaning, finding connections and discerning importance in the organization of the data. This approach was deemed suitable since it allows for a transparent, well-defined, and traceable process that makes it possible to reevaluate ideas and choices made in previous steps. Considering that the thesis follows an abductive method, this seemed like a suitable data analysis process. To have a clear analytical structure also nurtured good collaboration since every author of the thesis followed the same procedure, hence increasing coherence and transparency. The analytical process involves the five following steps:

1. **Familiarization:** The first step is to get familiarized with the collected data from the interviews. First by notes and immediate discussion upon the interview. Secondly, the transcribing and summarizing of each interview was assigned equally to the study's authors. The respondents' answers were structured according to the interview questions consisting of the four aspects, as described in the interview guide.
2. **Identifying main points.** The second step is to identify and discern the main points made by each respondent in every aspect. This step was first made individually and then evaluated by the co-authors. The details of this step are provided in the table in Appendix D.
3. **Indexing:** The third step is to identify consistencies and common themes between the different respondent's main points that were identified in step 2. These were then coded into an umbrella term suitable for each theme. This step was made together to mitigate personal bias.
4. **Charting:** The fourth step is to make a synthesis of the aspects to create order of the coded data. Included in this step is an iterative process of comparing the final umbrella terms to the results chapter to avoid losing the essence of the common themes. The synthesis is included in the final section of the Result chapter.
5. **Mapping and formulate:** The fifth step is to illustrate a framework that maps out the full concept of competence consisting of the aspects of knowledge, skills, attitudes, and values. This step takes place in the Discussion chapter, where the common themes were analyzed and discussed with the theoretical frameworks.

5.7 Methodological Limitations

The chosen methodology has some limitations, primarily due to the considerable number of relevant stakeholders. Due to time and resource limitations, only a small amount of interviews could be performed and therefore only two stakeholder groups were chosen. Meaning that the data obtained from this sample size represent only a fraction of the total stakeholders involved since there are many more relevant stakeholders that are not part of the thesis. Perspectives of students and alumni would be relevant, as they are directly engaged in learning and applying sustainability competence. Their insights would provide a broader and more precise portrayal of the circumstances and challenges related to sustainability competence. Additionally, the small sample size may not fully capture the diversity and complexity of perspectives on this issue within the corporate sustainability landscape. For that reason it is important to acknowledge that the findings may not fully represent stakeholder views of business professionals and academic experts.

5.8 Ethical Framework

To protect the rights of all interview subjects, it is essential to adhere to ethical research principles. Diener and Crandall (1978) outline four fundamental ethical principles that guide this process. These principles collectively ensure that the rights and well-being of all interview subjects are safeguarded throughout the research process. The ethical considerations are not only a requirement but a commitment to upholding the dignity and rights of all participants, which ultimately enriches the quality and credibility of the research findings.

Non-maleficence ensures that no participants are harmed by the study, either physically or mentally. In this study, we made sure that participants were comfortable during the interviews and were free to stop at any time if they felt uncomfortable. *Informed consent* is another crucial principle, participants must be fully and correctly informed to provide genuine consent. We achieved this by sending information about the study and the interview questions beforehand. During the interview, we also assured participants that no direct quotes would be used, they would remain anonymous, and pseudonyms would be employed to protect their identities. *Privacy and confidentiality* are paramount, we must not invade the participants' private lives, and their personal information must be protected. Throughout this thesis, participants were given pseudonyms to ensure their anonymity, respecting their right to privacy. *Transparency* is the final principle, which means avoiding deception and providing truthful information to participants. We adhered to this by accurately reporting respondents' statements and not twisting their answers.

5.9 Use of AI

AI platforms such as DeepL and Chatgpt have been used to improve the report’s language. With AI corrections grammar, tone, structure, vocabulary, and the overall clarity of the report was easily detected making the corrections of errors easier. The AI platforms can also be used to revise the text to ensure that nothing is missing in the report and give the report opportunities for improvement (Arasa, 2024).

6. Results

This chapter presents the empirical findings from the interviews with respondents. The chapter is divided in two parts, one for each stakeholder group. First, the answers from the business sector and then answers from Academic experts. Both sections follow the structure of this thesis's operational definition of competence in four aspects; knowledge, skills, attitudes, and values. Each answer reflects only on the respondent's viewpoint, not the collective stance of the organization. A synthesis is provided at the end of the chapter.

6.1 Business Respondents

BR1: Senior manager & team lead for sustainability services at a consultancy firm
BR2: Social and Financial Sustainability lead in the transportation sector
BR3: Climate and Environment Responsible in a regional trade association
BR4: Facilitator and trainer for Sustainability and Leadership development

6.2.1 Business Respondents Answers on Knowledge

BR1s response on knowledge

According to the respondent sustainability can bridge functions and integrate various functions within an organization. Creating a necessity for a basic understanding across all departments. This interconnectedness requires that employees comprehend their specific role's sustainability impact. Making comprehensive training crucial according to the respondent. As an example, the respondent states that sales personnel need to be aware of their products and services' climate implications. The respondent also points out that the concept of sustainability might initially appear abstract and somewhat vague. However, they argue that clarity can be achieved through targeted education programs. These programs can deepen the understanding of both mandatory legal standards and voluntary practices, influenced by initiatives such as the European Green Deal. They posit that leadership is vital in this scenario, as it is responsible for setting clear priorities and fostering the development of appropriate competence within each department. Furthermore, the respondent highlights the emergence of new roles like Sustainable Supply Chain Coordinator. They mean that this demonstrates the evolving nature of job functions, shifting from traditional positions such as Quality Assurance and Environmental roles to roles more explicitly focused on sustainability.

BR2s Response on Knowledge

It is important that those who work with economics within an organization have a deep understanding of how their decisions impact the entire value chain according to the respondent. This entails the ability to grasp the entire value chain, engaging effectively with suppliers and customers, since they extend influence beyond the organization. They emphasize the necessity of a broader perspective that encompasses social sustainability, specifically human rights. As navigating supply chain dynamics and human rights is vital for conducting due diligence and self-assessments within organizations. Moreover, the respondent highlights that increased sustainability reporting requires employees with proficiency in IT, system comprehension, and regulatory frameworks. They state that this knowledge is not

necessary for every team member, rather different knowledge expertise can complement each other. Knowledge of the environmental impacts within one's department, coupled with an organization-wide awareness that enables communication. Particularly social issues and human rights, is deemed crucial by the respondent. Understanding and valuing biodiversity, as well as integrating biodiversity considerations into business practices, are identified as vital. However the respondent mentions the difficulty in prioritizing between social and ecological values. They believe that it is generally easier to form an emotional connection to the importance of social values, compared to biodiversity for instance.

They stress that sustainable practices should permeate the entire company rather than being relegated to a few individuals. A broad interest in sustainability, supported by academic study and field experience, is increasingly valuable. As companies progress in their sustainability journey, they require individuals who can contribute meaningfully to ongoing sustainable development. The respondent mentions that continuous learning and reevaluation of one's sustainability knowledge is important. Further, they experience that competence in sustainability is seen as enhancing employability across various sectors, necessitating a fundamental understanding of sustainability in all professional roles.

BR3s Response on Knowledge

The respondent repeatedly acknowledges the significance of understanding regulatory frameworks as CSRD and their potential impacts on businesses. The respondent underscores the necessity of continually updating one's knowledge to stay in row with developments. Especially the need for firms to gain insights into both current and prospective climate impacts, and their reporting implications, was deemed crucial. Moreover, the integration of digital solutions into sustainability initiatives was considered essential. The respondent pointed out that leveraging evolving technologies, including various AI platforms, could streamline processes and facilitate a broader adoption of sustainability practices among professionals. They believe that this approach not only enhances efficiency but also fosters a deeper understanding and engagement with sustainability, promoting its advancement.

BR4s Response on Knowledge

The respondent emphasizes that knowledge on how to define sustainability is crucial as it provides a concrete framework for discussions within an organization. This clarity is essential not only for strategizing but also for developing effective measurement systems. They highlight the importance of systems thinking, which involves recognizing and understanding the relationships and hierarchies among various systems. According to the respondent, the natural environment, with all its complexities, must be understood as the base for the other dimensions, as we can not alter natural laws. Following this is societal systems, which are human constructs and thus can be redesigned. Meanwhile the economy is a system serving as a means to fulfill basic human needs. Knowledge that enables students to discern this hierarchy is seen as a fundamental for sustainability, and pivotal in formulating strategies. Additionally, the respondent underscores the significance of envisioning a sustainable future

and understanding the role businesses play in this vision. This entails having knowledge that enables an understanding of what success can be understood as in ecological terms, without the interest of people and industries. They argue that envisioning it is a powerful tool for shifting individuals from a self-centered viewpoint to one that considers collective long-term interests. Furthermore, they stress the importance of identifying key stakeholders, effectively communicating with them.

6.2.2 Business Respondents Answers on Skills

BR1s Response on Skills

When discussing skills, the respondent mentions the need to learn quantitative skills in evaluating environmental and social impacts. They experience an increased need to recruit professionals for specific roles, such as business controllers who can provide operational support, analyze data, and offer feedback. Engaging employees in sustainability initiatives is stated as particularly challenging as social and environmental issues are still seen as abnormal. The respondent highlights that to counter this, sustainability reporting can be integrated into the financial strategy. They believe that integration may compel business controllers to embrace sustainability as part of their responsibilities. It effectively mandates their involvement, ensuring that sustainability issues are seen as integral rather than optional. According to the respondent the approach not only broadens their perspective but also shifts their quantitative skills toward evaluating environmental and social impacts.

BR2s Response on Skills

The respondent underscores the importance of effective communication as a critical skill within companies, particularly in the context of sustainability. It is essential for engaging and educating stakeholders about the importance of sustainability, akin to how companies handle human rights issues. The respondent emphasizes that it is not enough to discuss these topics among those already aware; outreach must also extend beyond familiar circles. Effective communication is key to fostering transparency and trust, both within and outside the organization. It necessitates regular updates about ongoing activities, not just reporting on past accomplishments. The respondent further highlights that communication plays a crucial role in raising awareness of social issues within the company and ensuring that there is alignment at the top. The commitment from the board is pivotal as it sets the direction for sustainability efforts. Besides communication, key competencies should include coordination and project management, which are stated as particularly relevant in light of the new CSRD. These skills are essential for planning and advancing sustainability initiatives effectively. Moreover, skills in fostering collaboration across departments are deemed critical by the respondent. Further, the ability to identify and manage risks and especially safety risks. Risk management concerning sustainability, corporate social responsibility, and community impacts is necessary. The respondent mentions this as particularly crucial for the purchasing team's decision making.

BR3s Response on Skills

Developing the ability to communicate effectively and to collaborate cross-functionally between different departments is significant according to the respondent. These abilities allow for a deeper understanding and better management of complex sustainability issues. It is essential especially in the dynamic business landscape where departments often have varying goals and resources. The respondent also emphasizes the importance of leadership skills in managing sustainability initiatives. This includes skills in strategically organizing and integrating these initiatives into the company's overall business strategies. Such leadership requires not only a fundamental understanding of sustainability but also the ability to recognize and exploit the synergies in the value chain, and between sustainability goals and business objectives. To exemplify the skill of evaluating consequences across the value chain, an example is given from a customer. Their sustainability initiative lowered their own emissions, but resulted in increased material use for their suppliers, ultimately resulting in a larger sustainability impact. The respondent states that incorporating sustainability initiatives into the company's central strategies ensures these efforts receive the essential priority and resources needed to make a meaningful impact and achieve enduring changes. The respondent highlights the skills of communicating, collaborating and integrating sustainability into the company's core business is critical to the success of the initiatives.

BR4s Response on Skills

Listening is a foundational skill for sustainability according to the respondent, both for leadership and innovation. They state that listening can be positioned on different levels, as in listening to self, listening to others, listening to group dynamics, and listening to systems. The systems could be a municipality, it could be a river basin or the planet as a whole. They mention that for a leader it’s important to understand that the level from which one listens, determines the outcomes. They also posit that this enables us to move towards generative listening, a place from where we together can hear new things that we could not hear individually. Perspectives that are new to all of us, which enables creativity and innovation. They point out that this is especially important for sustainability since we do not know what society will look like in the future. The respondent also states that while it’s important to listen from a systems perspective, it’s also crucial to be able to go back and listen with a business mindset, to understand their incentives.

6.2.3 Business Respondents Answers on Attitudes

BR1s Response on Attitudes

Individual commitment and motivation have historically been crucial for advancing sustainability within organizations according to the respondent. However they note a significant shift in this dynamic, largely driven by increasing external pressures from clients. They state that this external pressure is reshaping organizational attitudes towards sustainability, encouraging its adoption as a strategy for growth and competitive advantage. The respondent mentions that management's recognition of sustainability through the setting of science-based targets to reduce climate impact, leaves no room for dissent. The respondent

suggests that if anyone chooses to deny climate change, they should do so outside of their professional responsibilities. Further, they underscore that a commitment to a science-based target underscores a definitive organizational stance: sustainability is no longer optional but a fundamental aspect of the workplace, supported by scientific evidence. The respondent underlines that the professional attitude should be aligned with the scientific and organizational prioritization of sustainability.

BR2s Response on Attitudes

The respondent highlights that key attitudes valued within the organization include humility, which facilitates genuine listening and consideration of others' perspectives. This humility should be paired with an openness to engagement, fostering a strong sense of collaborative trust among team members. Additionally, having the courage to challenge ideas when necessary is crucial for driving innovation and improvement. The respondent states that it is vital to maintain a good balance between humility and assertiveness. It's important to avoid being overly passive, which might lead to missed opportunities for improvement. Similarly, being too confrontational could undermine teamwork and trust. The respondent believes that an attitude that values this balance contributes significantly to a productive and respectful workplace environment.

BR3s Response on Attitudes

During the interview, the respondent highlights the importance of maintaining an open attitude and the courage to make mistakes. They point out the importance of individuals daring to make suggestions and not become disheartened if these are not embraced, as this behavior can drive significant development and learning within the team, both on social and professional levels. The respondent also pointed out that the employer's attitude towards its employees plays a critical role. They state that a mutually positive attitude between employer and employee creates a win-win situation, which in turn is positively reflected in the overall performance of the company. In addition, the importance of having the courage to engage with sustainability issues and not being deterred by the challenges they pose was underlined. Proactively striving to be at the forefront of sustainability is seen as crucial to strengthen a company's competitiveness and attractiveness in the market. The respondent notes that many people feel insecure about sustainability-related issues and often underestimate how much they already contribute to sustainability efforts. Therefore, it is important to maintain an attitude where you both want and can work with sustainability.

BR4s Response on Attitudes

The respondent emphasizes oneness and advocates for a mindset that recognizes the interconnectedness of people and the planet. Further, they highlight the necessity for an attitude that views sustainable practice as collectively beneficial. Specifically, they underline how the mindset that humans are separate from nature has facilitated destructive systems. They illustrate this by comparing unsustainable business practices, with cutting off one’s own finger. The respondent believes in the necessity of shifting this mindset and underlying belief

in order to genuinely work with sustainability. However, the respondent also says that it is important to recognize that it can be painful to shift your underlying beliefs, since these are often what previously made one successful. Furthermore, they posit that courage is required both to embrace collaboration and to challenge one's limiting mindsets. Emphasizing that the attitude of striving for sustainability efforts, leads to common benefits for all. Moreover, the respondent emphasizes the importance of a genuine belief in sustainability. They caution against instrumentalizing sustainability as a mere career aspiration or superficial business strategy. They highlight instances of management firms adopting sustainability as a trend, without addressing actual organizational disconnections. Therefore, a genuine understanding of how we are all in this together and the common benefits of sustainability, are deemed essential by the respondent.

6.2.4 Business Respondents Answers on Values

BR1s Response on Values

During the discussion on values the respondent underscores that working with values is fundamental when shaping the culture of an organization. They believe that certain values, while not explicitly detailed in the CSRD code of conduct, are thoroughly integrated within the social chapter. This chapter covers a broad spectrum including employees, suppliers, and the entire value chain, with a clear focus on human rights aligned with international standards. The respondent connects the new standards in CSRD to the values needed in an organization. Even if values are not explicitly detailed in the standards, they experience that certain values are thoroughly integrated within it, which can shape the organization's values. Our organization emphasizes values such as desire, will, passion, and honesty, which are deemed crucial for maintaining our ethical framework. These values not only guide the behavior within the organization but also help in fostering a strong, values-driven culture that supports sustainability and ethical practices across all areas of operation. This approach ensures that the organization's actions are consistent with its commitment to ethical principles and human rights, reinforcing its reputation and operational integrity.

BR2s Response on Values

The respondent emphasizes on the importance of maintaining a keen interest in sustainability, recognizing its value while cautioning against an overly idealistic approach. Idealism, especially common among those new to the field of sustainability, can be a powerful motivational force. However, the respondent advises balancing this enthusiasm with the practical realities of ensuring organizational survival. In challenging times, while it's important not to completely shelve sustainability efforts, financial commitments may need to be adjusted to more feasible levels until conditions improve. The respondent also mentions that their organization actively works with core values such as empathy and care. They elaborate on this and state that they prioritize caring for people, and that customers acknowledging that these relationships are vital to fulfilling our mission. This approach underlines the belief that sustainable and ethical practices extend beyond environmental

concerns, encompassing a broader commitment to human and relational aspects, which are integral to long-term success and meaningful impact.

BR3s Response on Values

It is essential to commit to sustainability according to the respondent. It should not be regarded as a secondary matter, but as an essential aspect of the company's core business strategy. The respondent emphasizes that the aim should be to integrate sustainability fully and not longer being perceived as a separate area within the company. When sustainability becomes a natural and inseparable part of all company functions and decision-making processes, the ultimate goal of sustainability integration is considered to be achieved. The respondent additionally emphasizes the importance of transparency and authenticity in corporate sustainability reporting. This is crucial to ensure the credibility of the company's sustainability initiatives and to avoid the risk of 'greenwashing', whereby companies give the appearance of environmental responsibility without actually taking substantial action. Maintaining a high level of transparency in reporting is not only a matter of complying with rules and standards, but also plays a critical role in how the company is perceived by customers, investors and other stakeholders. The respondent's views point to a need for a profound cultural change within companies, where sustainability issues are integrated into daily work and where every employee's actions and decisions reflect a commitment to promoting sustainability. It is through such integration that companies can not only improve their environmental impact but also strengthen their position in the market as a responsible and future-proof player.

BR4s Response on Values

The respondent emphasizes integrity as a critical value for sustainability, expressing concern over its deficiency within society. They perceive a lack of integrity that perpetuates itself; if one individual compromises integrity, it enables others to do the same. The respondent states that this is especially problematic in sustainability. They highlight the frequent dichotomy between declaring sustainability a main organizational goal and the actual allocation of resources and decision-making criteria. Further, the respondent posits the benefits of polarity thinking in values, meaning that there is an inherent polar counterpart for each value. They give the example of many companies having innovation as a core value, and that the counterpart can be seen as stability, which might be equally important both for customers and for sustainability. The respondent underscores that the balance between innovation and stability can be vital for sustainability. They exemplify the practical implication of balancing these two values by stating that sometimes we need to innovate our unsustainable processes but maintain stability, and protect others.

6.3 Academic Experts

AER1: Assistant Professor, conducts research in corporate finance, strategic management and corporate sustainability

AER2: Associate Professor, conducts research in sustainability reporting, integrated reporting, accounting regulation and accounting communication
AER3: Senior lecturer, conducting research in corporate social responsibility, business administration and Business schools role
AER4: Professor conducting research in organizational theory and business ethics

6.3.1 Academic Experts Responses on Knowledge

AER1s Response on Knowledge

The respondent initially highlights the challenge of mentioning specific sustainability-related knowledge, due to its ever-evolving evolution. Instead, the respondent emphasizes the significance of including lived experiences as a form of knowledge already in the educational experience. They believe it is important to have experiences and interactions that allow the student to have an emotional experience to shape their sense of what sustainability is. The necessity of including the whole human being is highlighted. In regards to this, inviting reality into the classroom is underlined. The respondent clarifies that this kind of learning opportunities can range from site visits to real-world case studies. The respondent says that interaction with different stakeholders can help students reshape their perceptions of what sustainability is, in a practical context. They give an example of having visiting lecturers from individuals who can represent what social sustainability means in reality, thereby helping students to reinterpret sustainability in a practical context. Lastly, the respondent accentuates biodiversity as an increasingly important subject, and underscores that this is acknowledged partly due to the new EU-directives. An example is given of how it will be crucial to understand how to negotiate between the biodiversity dimension and the financial dimension in decision-making for new buildings. Another example is agriculture and forest industries, that the respondent highlights as examples of topics that business school could pay more attention to.

AER2s Response on Knowledge

The respondent identifies a lack of awareness within businesses today, particularly at the managerial level, regarding how various strategies and decisions impact both humans and the environment. The respondent also discusses the need to understand the environment from a social perspective. For instance, in the case of extractive industries, they often lead to the destruction of land as they simultaneously degrade residents' living environments. They also believe that delving into specific factual cases to highlight these problems is crucial. Moreover, identifying links between various issues that might be related is essential. They particularly mention that when addressing environmental issues, one must consider biodiversity and its relation to climate change. The respondent currently finds a lack of these aspects when discussing sustainability. The different perspectives on sustainability still require substantial learning, particularly in terms of knowledge and interdisciplinarity.

AER3s Response on Knowledge

To effectively address the complex challenges of sustainability requires an in-depth theoretical and conceptual understanding of the phenomenon such as sustainability reporting, transparency, legitimacy and trust according to the respondent.. They state that this fundamental knowledge is essential not only for students but also for business professionals, as it provides a framework for understanding and skillfully managing sustainability issues. A sound understanding in these areas enables individuals to identify and apply relevant strategies and practices that can effectively address and improve organizational sustainability performance. This is stated as crucial in an era where both environmental and social demands on businesses are constantly increasing. The respondent expressed that educational institutions play a critical role in developing students' knowledge and must ensure that their courses cover both basic and advanced levels of sustainability. They state that it is crucial that these courses are designed to prepare students for real-world challenges in the workplace. Specific competences such as CSRD and ESRS reporting as well as greenhouse gas (GHG) and environmental impact management is particularly highlighted. By focusing on these key knowledge areas, educational institutions can ensure that their students are well prepared to meet the needs of business and contribute to a sustainable future. A future where companies not only comply with legal requirements but also meet market and societal expectations for responsible and sustainable business.

AER4s Response on Knowledge

The respondent emphasizes that it is critical that economists have an in-depth knowledge of the cycles of the Earth system and ecosystems, ranging from carbon cycles to water and nutrient cycles. To fully understand the environmental impact of economic activities, the respondent thinks that a basic knowledge of natural science principles is essential. Additionally students of economics must possess a thorough understanding of both social and environmental sustainability. The respondent believes that the combination of adequate knowledge in natural systems, ethical perspectives, and analytical ability is crucial to understand how these systems interact. This is underlined as the foundation of a holistic approach that considers both social and environmental sustainability.

The respondent exemplifies how this can change one's perspective on how natural resources are valued and the concept of ‘refinement’ in the value chain. Particularly, understanding the first and second laws of thermodynamics, which provide insights into the conservation and transformation of energy and its dissipation in the form of increased entropy. This knowledge is not only theoretical but has direct implications for how economic decisions affect the natural world. For example through energy consumption and waste production. The respondent further exemplifies that the word refinement can be misleading. Referencing the contradiction between the economic concept of adding value, and the natural resources destruction it entails. The respondent believes that understanding these relationships is fundamental for economists to make decisions that minimize negative environmental impacts and promote sustainable development.

6.3.2 Academic Experts Responses on Skills

AER1s Response on Skills

According to the respondent the ability to get stuff done, is an important skill when it comes to sustainability. This is described as a combination of daring to push one's interest in these questions and being able to engage others along the way. Further, the respondent mentions broader ways of teaching important skills like leadership, drawing on experiences from other Business schools. An example is given on including indigenous perspectives on leadership. Another example is a course that trains students to shift perspective. The students go out into different environments in order to reflect on how these places or contexts relate to their own life experiences.

When asked more specifically about skills relating to non-financial and financial values, the respondent discusses the importance of investment analysis. Particularly in evaluating sustainability aspects and demonstrating their long-term financial implications. The skill of understanding the linkage to financial decision-making processes is emphasized. Further, the respondent also brings up the contemporary discussion on whether sustainability management should be developed into a profession. They believe that comprehending and managing multiple dimensions of an issue, as required by sustainability, is a specific skill. That it is about more than the narrow topical expertise, and more about the ability to navigate several areas. To run projects and make people come together.

AER2s Response on Skills

The respondent emphasizes on the importance of not discussing subject expertise or specific content knowledge, but rather focus on skills. That the ability to avoid confining oneself to a single perspective is crucial to effectively convey and understand multiple viewpoints. Particularly in the context of sustainability, which is inherently multidimensional. They pose that one might liken it to a diamond, reflecting light from various facets. In the future, students will likely benefit greatly from the ability to navigate across different disciplines, to communicate with experts from diverse perspectives and fields, and to work in various areas on different issues. The respondent believes this adaptability will be increasingly in demand. Furthermore, the respondent highlighted the importance of digitalization as a tool, for example, big data and related skills. The respondent concludes by highlighting the importance of maintaining an open mind, and that this can be seen as a specific ability. Learning to appreciate various perspectives, navigating diverse areas and disciplines and shifting between the different perspectives. Additionally, the respondent underscores the empathetic capacity that they find intertwined with values. They emphasize the ability to empathize with other people's perspectives, and also to understand problems from the perspectives of for instance animals or trees.

AER3s Response on Skills

Necessary skills to obtain when working with sustainability are multifaceted and range from technical knowledge of health safety to advanced understanding of circular processes and

environmental impacts according to the respondent. These competences are critical to effectively identify and manage various safety issues, risks and opportunities that may arise in the workplace. The respondent states that the skills to implement necessary changes to improve the work environment requires a solid knowledge of the areas of the environment that directly affect the company's operations. It is not only a matter of understanding these processes in theory, but also the ability to apply this knowledge practically to push and support sustainable initiatives within the organization. Furthermore, the respondent highlights that the ability to effectively drive and lead sustainability initiatives requires a specific set of leadership skills. These include the ability to navigate and anchor strategic decisions, negotiate budgets and effectively communicate the plans to boards and management teams. Strong leadership skills are stated as necessary to motivate and engage staff in sustainability processes, which is crucial to create broader acceptance and commitment to sustainability goals across the organization. For a senior manager, this means balancing technical expertise with the ability to lead and inspire others. A combination that the respondent believes is fundamental to building trust and driving the business towards its sustainability goals effectively.

AER4s Response on Skills

The respondent emphasizes the development of analytical skills in economics students is crucial. Enabling students with an ability to evaluate and correctly apply theoretical knowledge in practical situations. These skills result in a deeper understanding and analysis of complex problems, which is essential in an economic context where decisions often have far-reaching consequences according to the respondent. By equipping economists with the ability to critically review and synthesize information, it prepares them to effectively manage and solve problems that require careful analysis and judgment.

Furthermore the respondent emphasizes that in addition to analytical skills, the ability to translate theoretical knowledge into practical action within organizations is another critical skill that economics students must possess. This ability is particularly important when it comes to implementing strategies that balance both financial and non-financial values, which is increasingly relevant in today's business environments. As they emphasize on sustainability and ethical considerations. Communication skills also play a vital role in this context, as they enable economists to effectively convey and argue the importance of non-financial values in economic decisions, which is crucial for achieving a balance between economic profit and social responsibility.

6.3.3 Academic Experts Responses on Attitudes

AER1s Response on Attitudes

When asked about attitudes the respondent states that it is important to have confidence, without having an ’attitude’. Additionally, the interconnectedness between the traditional cultures in business schools and their influence on students’ values and attitudes is highlighted. The respondent notes that they have observed a certain fatigue among some

students regarding the constant emphasis on what they described as ‘saving the world’. In regards to this, the respondent states that it is important for the school to provide role models for how to work with sustainability. Role models who can demonstrate how to pursue a career in sustainability, as well as show how sustainability aspects relate to the students themselves.

AER2s Response on Attitudes

The respondent states that it is crucial that sustainability issues are placed in a central problem-solving process. They connect this to a matter of mindset regarding both the significance of sustainability, but also the understanding that sustainability is not a separate issue. However, in the context of the CSRD, has resulted in a shift towards more authentic integration. With the focus now also being on supply chains, all these aspects will need to be scrutinized. This includes the diligence directive mentioned. These EU regulations aim to align finance, sustainability, and governance issues under a common agenda and truly integrate them into one another. From what the respondent observed in the companies they studied, they express a sentiment that when the sustainability department becomes entirely irrelevant, that is when true integration has been achieved. Sustainability will no longer be discussed as a separate department but as an integral part of everything. This attitude, albeit challenging to discuss in terms of mere attitude, recognizes that this is one of the most crucial issues that all organizations and individuals depend on. Hence, it's clear that placing this perspective at the forefront and working towards resolving these issues to the extent possible is the central approach according to the respondent. Moreover, the respondent highlights examples of how the relationship between humans and nature is perceived in other cultures. They argue for an attitude that does not prioritize humans over nature and animals but rather views oneself as a natural part of the system.

AER3s Response on Attitudes

The respondent emphasizes that there has been a significant shift in the business world when it comes to attitudes towards sustainability. In the past, sustainability issues were often seen as peripheral, something that should not affect fundamental business decisions. Nowadays, sustainability is a central element of business strategies and culture. This change in attitude has led companies to see sustainability not only as a necessary part of their operations, but as an essential factor for long-term success and positive societal impact. This change underlines the importance of business leaders and employees understanding and integrating sustainability principles into their daily activities and decision-making processes, which requires a well-developed knowledge base and skills in the field. As a result, it has become increasingly important for business and economics programs to adapt their curricula to include sustainability management. Students need to learn how to navigate through complex data sets, develop and interpret key performance indicators, and manage sustainability reports to effectively contribute to corporate sustainability goals. The growing demand in business for young professionals with specialized knowledge in sustainability reflects this trend and shows a general shift towards a more sustainability-conscious business model.

AER3s Response on Attitudes

As a result, it has become increasingly important for business and economics programs to adapt their curricula to include sustainability management. Students need to learn how to navigate through complex data sets, develop and interpret key performance indicators, and manage sustainability reports to effectively contribute to corporate sustainability goals.The growing demand in business for young professionals with specialized knowledge in sustainability reflects this trend and shows a general shift towards a more sustainability-conscious business model.

AER4s Response on Attitudes

In the academic world of economics, attitudes such as skepticism and humility are fundamental to fostering a rigorous scientific understanding and approach according to the respondent. They mention that economists are often faced with complex data and theories that require careful analysis and questioning. By having a skeptical attitude, economists can effectively evaluate the validity and robustness of their economic models and assumptions. Humility also plays a crucial role, as it enables researchers to recognize limitations in their existing knowledge and be open to new perspectives. This combination of skepticism and humility facilitates a constant pursuit of knowledge and understanding, which is necessary for scientific progress and applied economic practice. Furthermore, adopting a 'can-do' attitude can be extremely beneficial in the field of economics, especially when it comes to challenging established knowledge systems and structures. This attitude encourages economists to actively question and rethink the prevailing theories and methods, which can lead to innovative solutions and improvements in the discipline. Such an attitude not only fosters critical thinking and creativity, but also strengthens the scientific rigor that is necessary for economics as a field to continue to evolve and adapt to changing global conditions. By combining these two attitudes, economists can contribute to a more dynamic and responsive understanding of economic phenomena, which is crucial in an increasingly complex and uncertain world.

6.3.4 Academic Experts Responses on Values

AER1s Response on Values

The respondent believes that for Business Schools to be 'best for the world, not best in the world,' the question of values is crucial. Further, they mention the tension between promoting critical, independent thinking and the need to build knowledge cumulatively. When asked, the respondent problematized how to approach power and critical perspectives in business education. Even if the respondent does not state specific values, they underscore the importance of addressing the underlying values inherent in our beliefs and cultures. The respondent highlights that Business Schools have, and foster, a culture that elevates certain values and attitudes. Business Schools are compared to other academic institutions where they perceive a greater openness to dialogues that shed light on the political aspects of knowledge production. Ultimately they suggest that it is easier for a Business School to become a force for good if more value perspectives are integrated.

AER2s Response on Values

The respondent mentions stewardship, and that values are critically important, particularly the foundation on which they stand. They mention the need to foster an awareness that transcends mere profit-seeking and financial gain. Instead, aim to cultivate an appreciation for the resources provided by society and the environment, even if they can't be quantified as assets on the balance sheet. The respondent connects the question of values with economic valuation, giving an example of the problematic nature of the concept of 'provisions for environmental damage.' They argue that first of all, companies should aspire not to pollute at all, yet emphasize the tendency for environmental damage costs to be underestimated, or undervalued. The respondents connect this to a short-term focus on financial outcomes and posits that a perspective failing to understand the long-term implications on human and natural well-being is problematic. Additionally, the respondent underscores human values and the ability to empathize. Those values are connected to the capacity to comprehend alternative perspectives. They say that they are inspired by more holistic views that do not prioritize humanity over nature. Rather, values that acknowledge human beings as integral parts of the broader ecological system.

AER3s Response on Values

The respondent first states that discussions surrounding sustainability values within businesses have diminished compared to the past, due to there being fewer regulations and legislation measures concerning sustainability in the past. Meaning that companies were more reliant on their intrinsic values to guide their sustainability efforts. However, in the current regulatory landscape, there is an abundance of directives and regulations governing sustainable practices. The respondent highlighted how in recent times there has been a notable shift in priorities, with people valuing sustainability issues and social issues higher than before. This change reflects towards valuing long-term growth instead of short term profit maximization. The respondent also experienced that companies now handle sustainability as a problem to solve, rather than a value, since sustainability is now accepted as a certain goal. They also highlight the importance of education in shaping future leaders and decision-makers. Educational institutions play a critical role in not only imparting knowledge, but also in shaping the values of students, especially in fields such as economics and business management. The respondent states that by integrating sustainability into their courses, these institutions help provide students with the tools and understanding needed to navigate and lead in an increasingly complex and sustainability-focused business world. This approach supports the development of a new kind of leadership that is equipped to face the challenges and opportunities presented by sustainability issues. The respondents believe that this supports the new generation of business professionals who can contribute to a more sustainable global economy.

AER4s Response on Values

When asked about values the respondent mentions that it is essential that values include a strong ethical foundation. This ethical foundation should not just be a passive companion but an active part of the economist's decision-making process. It is crucial that economists regularly reflect on and revise their own values in the light of new knowledge and changing circumstances. Such a dynamic approach to ethics stimulates a constant readiness to reassess and adapt one's positions and actions, which is essential in a world where economic decisions often have far-reaching social and environmental consequences. In addition, economists should show a deep appreciation for the diversity and integrity of life, which is of particular importance when dealing with environmental issues according to the respondent. A fair and equity-oriented approach should permeate the analysis of economic activities and their impact on both people and the environment. Applying an equity perspective means not only focusing on economic efficiency, but also considering how wealth and resources are distributed and the consequences this has for different groups and ecosystems. By integrating this type of ethical perspective, economists can contribute to more sustainable and equitable economic systems that respect and safeguard both the natural world and human welfare according to the respondent.

6.4 Synthesis of results

The table shows a synthesis of identified key themes from the interviews. A comprehensive table is provided in Appendix E for additional details. For further explanation, see section 5.8 on Data analysis.

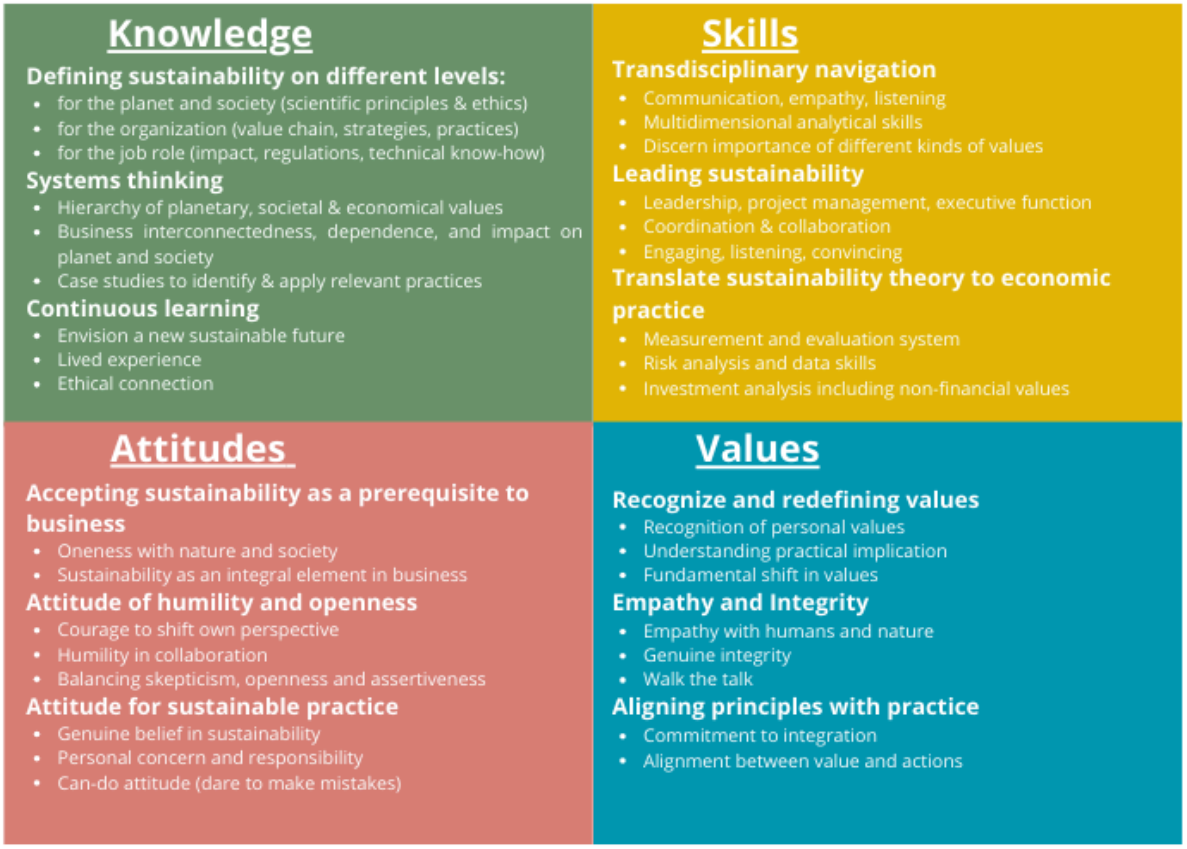

Figure 4: Synthesis of the result

7. Analys & Discussion

This chapter analyzes empirical findings in relation to the theoretical frameworks on sustainability competence. The structure follows the same division of Competence as previously and proceeds to discuss the most common and significant dimensions in each of the four aspects. Ultimately these are integrated with established frameworks on sustainability competence, creating a framework aimed at business students. Lastly, the practical relevance of the proposed framework is examined in relation to the problem formulation of this thesis.

7.1 Sustainability Competence

This study shows that there are various definitions and understandings both of sustainability competence and competence. The theoretical framework defined an operational understanding of competence in four aspects, knowledge, skills, attitudes, and values. However, the study showed that in practice, these aspects frequently overlap and intertwine. This complicates efforts to distinguish them distinctly. This issue was stressed by the respondents, who also pushed the importance of not only understanding, but also practically applying these various aspects. Correspondingly, Delamare Le Deist and Winterton (2005) stress that competence encompasses more than just functional and cognitive aspects; it also includes behavioral competence. This distinction highlights a key contrast between theoretical definitions, and practical applications of competence. A differentiation that respondents often found challenging, especially when trying to categorize competence into theoretical aspects. However, this categorization in aspects allows for a dissection of the complexity of practical competence. Theoretical frameworks, such as the Green Comp (2022) see App. A, categorize competence into distinct sections. Despite this categorization, the competencies remain equally important, forming parts of an integrated whole (European Commission, 2022).

Moreover, respondents emphasized the importance of these aspects being interconnected, which highlights the need for an integrated approach when defining competence. The Key Sustainability Framework (Wiek & Redman, 2021) designs competence to be interdisciplinary, acting as a crucial guide for identifying key competence essential for collaborative and sustainable transformations. The KSCs emphasizes that competencies should not be viewed merely as separate elements but must be effectively integrated to facilitate significant changes in sustainability (Wiek & Redman, 2021). Reflecting on this integrative approach, this study also noted that the aspects are intertwined and mutually enhancing. Together, these elements can contribute to a comprehensive proposition of what constitutes sustainability competence for business students.

In the following section key themes for each aspect of competence are analyzed with theoretical perspectives on competence. These are then discussed in relation to established sustainability competence frameworks, to include sustainability insight beyond the business-oriented perspective of the thesis's stakeholders. The discussion of each aspect then culminates in specific discussion points regarding sustainability competence particularly relevant for business students.

7.2 Knowledge Analysis

The common themes among the respondent's answers were that there is a need for a comprehensive understanding of topical knowledge and how to define sustainability on different levels. Further, systems thinking and the hierarchy of planetary, social and economical systems were highlighted. For business students to appreciate the broader impacts of business practices, and the interconnected nature of global systems. Thirdly, continuous learning by engaging with new research, learning from lived experiences, and actively envisioning a sustainable future was highlighted. This aligns with Lin (2019), who identifies three essential aspects of knowledge crucial for engaging with sustainability effectively: topical knowledge, lived experiences and integrated learning competency. These components are stated as pivotal in enriching scientific understanding with practical insights and addressing real-world sustainability challenges. For instance, topical knowledge on scientific principles on the planetary system and ethical knowledge related to societal systems were particularly highlighted by several respondents. Further, the aspect of lived experiences was also a common theme. Particularly the positive impact of personal experiences on professional development and ethical connection to sustainability. As highlighted by Venn et al. (2022), lived experience and topical knowledge mutually enrich each other into integrated knowledge. By integrating these two dimensions, individuals can leverage their personal experiences and professional training to foster a more sustainable future effectively.

The common themes of knowledge also relate to the KSCs. Knowledge in how business practices are interconnected with sustainability correlates to what KSCs refer to as implementation competence and integration competence. Green Comp emphasized the importance of embracing complexity in sustainability, highlighting systems thinking as a crucial competence alongside the ability to frame problems effectively. These were also underscored by respondents as essential for business students. Furthermore, Green Comp stressed the significance of individual initiative, support for fairness, and the promotion of nature. Correspondingly, respondents acknowledged the importance of individuals' continuous learning. Here, knowledge vital for personal development through lived experience and ethical considerations were common themes.

7.2.1 Discussion Points

The analysis above reveals three primary discussion points on the knowledge dimensions pertinent to sustainability competence for business students. *The first dimension* requires understanding sustainability on three levels to understand how corporate policies and professional actions align with broader sustainability goals. The general scientific and ethical principles of environmental and social sustainability, the implications of these principles on a company level, and the individual’s specific role and professional actions. *The second dimension* refers to knowledge regarding systems thinking. This encompasses the ability to frame problems and understand the interconnectivity of different elements regarding sustainability. This includes understanding how different factors influence one another across

industries and the importance of ecological and social sustainability in business practices. *The third dimension* is personal development. The dimension emphasizes envisioning sustainable alternatives, the ethical imperative of sustainability, and the necessity of continuous learning. Continuous learning appears crucial given the dynamic and ever-evolving nature of knowledge in this field. Hence, this becomes important for business students.

7.3 Skills Analysis

The respondents' collectively underscore a holistic approach to leadership and management. Especially a strong focus on sustainability, effective communication, and trans-disciplinary collaboration. This was connected to an aim of fostering innovation and driving meaningful change in organizational settings. These thematic elements are not only reflective of the respondents' collective insights but also resonate with established theoretical frameworks. According to Attewell (1990), skills are pivotal for performance in work settings, serving as a cornerstone in the theoretical landscape of professional competence. This perspective aligns with the skills identified by Kearins and Springett (2003), who emphasize reflexivity, critique, and engagement in social actions as crucial skills for effective environmental management. Many respondents highlighted these aspects of competence, discussing the significance of leading sustainability initiatives, engaging others, and executive ability.

This compares to what the KSCs (2021) refer to as implementation competence, which they state is particularly important for practical studies as a business. Further, on transdisciplinary navigation, several respondents also emphasized the skill to discern the importance of environmental and social values, not only financial or quantitative. This is similar to GreenComp's (2022) competencies of valuing sustainability and promoting nature. The skill of translating theoretical sustainability knowledge into economic practice further correlates with GreenComp's competency Adaptability. This concerns managing ambiguity, uncertainty and risk in complex sustainability issues, which was a common theme in the respondent's answers. Particularly for investment- and risk analysis. This convergence of empirical and theoretical insights elucidates the critical role of certain skill sets in bridging the skills gap in sustainability for future decision-makers.

7.3.1 Discussion Points

The analysis above reveals three findings in the skill aspect pertinent to sustainability competence for business students. *The first dimension* is integration skills which include the ability of transdisciplinary understanding, communication skills, multidimensional analytical skills, and the ability to understand different disciplines and departments' views of sustainability. The *second dimension* is administrative skills which includes leadership, project management, and executive functions. These skills are fundamental for achieving organizational goals and handling the complexity of sustainability projects. Administrative skills facilitate the effective coordination and execution of sustainability strategies, ensuring that theoretical plans are translated into practical actions. *The third dimension* encapsulates the ability to translate theoretical knowledge into practical outcomes. This includes measuring

and evaluating sustainability factors, performing risk analysis, and leveraging digitization and data skills for investment analysis and implementation. The capacity to ‘get stuff done’, is crucial for translating sustainability concepts into actionable outcomes. This skill set is vital for practitioners who aim to implement sustainable practices effectively and efficiently.

7.4 Attitudes Analysis

The common themes from the respondents were attitudes of accepting sustainability as a central part of businesses, attitudes in working with others on sustainability, and attitudes toward one's individual actions for sustainability. Several respondents included the stance that an attitude of unity with nature is crucial. That an attitude that values the interconnectedness between people and the planet is imperative to work with business sustainability. Similarly, a mindset of putting sustainability in the center, rather than in the periphery, is underscored by several respondents. Some respondents answered that it is vital that sustainability is understood as an integral part of the business model, a central element of business strategy, and an essential aspect for long-term success. Both groups stress the need for professional attitudes to align with this ethos. This is in line with what Bonnet (2022) highlights as the connection between attitude and behavior. Fostering mindsets that value our deep connection with nature is crucial for promoting effective practice according to Bonnet, who further states that it is vital to embrace attitudes that prioritize sustainability in actions and decision-making. Similarly, several respondents highlighted the importance of openness, courage, and humility, which was connected to interpersonal collaboration and communication. These attitudes were seen as important for innovation, learning, and creativity.

Another common theme in this dimension was the courage to challenge both one's personal underlying beliefs and the organizational ones. These answers can be understood together with GreenComp’s (2022) competency of Embracing Complexity of Sustainability. This entails Critical thinking, that challenges the status quo. Additionally, Exploratory thinking is stated as a competency to Envision sustainable futures by adopting a relational way of thinking, being creative, and experimenting with novel ideas. Similarly, Bonnet (2022) argues that attitudes characterized by openness, empathy and a collaborative spirit are crucial. This is connected to the complexity of sustainability, and a necessity to create effective practice. Further, Bonnet advocates for humility, inclusivity and ethical mindfulness in the promotion of sustainable practices, which are attitudes that several respondents mentioned. This is something that respondents state in terms of having a sound balance between humility, skepticism, and assertiveness when engaging with sustainability practice. This further corresponds to how Hanel et al (2021) defines attitudes, that there are negative and positive attitudes. In the KSCs, the professional competence of compassionate communication are mentioned. For this, an attitude of respect, and openness can be particularly important for business students.

7.4.1 Discussion Points

The analysis above culminates into three primary attitude dimensions relevant to business students. *The first dimension* can be distinguished as an attitude that challenges status quo and accepts sustainability as a prerequisite of businesses. An attitude that explores and changes unsustainable, underlying beliefs on both organizational and personal levels. For business students, it is crucial to consider sustainability as an integral part of the business model, central to the business strategy, and essential for long-term success. *The second dimension* includes attitudes important for interpersonal collaboration and communication. For business students, these include an attitude of openness and trust of other discipline's perspectives in collaboration. Additionally, a balance between humility, skepticism, and assertiveness. *The third dimension* relates to attitudes on an individual level relating to acting for sustainability. For business students, this includes a can-do attitude, the confidence to engage with sustainability, and the courage to make mistakes. An attitude of personal concern and responsibility for acting sustainably is vital.

7.5 Values Analysis

Respondents from various sectors emphasized the importance of values in guiding organizations toward sustainable and ethical practices. They stressed the necessity of adopting appropriate values related to nature and humanity before one can effectively engage with sustainability initiatives. Similarly, Bonnet (2002) argues that values are essential for driving meaningful change and promoting sustainable practices, prioritizing the well-being of the planet and its inhabitants. This involves cultivating a mindset that prioritizes conservation, preservation, and a deep connection with nature. Similarly, respondents underscored the importance of striving to uphold ethical values concerning both nature and humans. Many respondents emphasized the importance of empathy, caring for, and understanding social and ecological issues, particularly human rights and biodiversity. Another common theme was integrity and aligning practice with values as well as stressing the importance of individuals being a force for good in sustainability efforts. This further related to a balance between recognizing the value of sustainability and avoiding overly idealistic approaches. However, recognizing oneness with nature, and appreciating the resources provided by society and nature, were common themes related to foundational values for sustainability. The respondents' views on values align with the definition presented by Hanel et al. (2021), who describe values as guiding principles that are applicable across various situations and integral to one's self-concept.

The respondents' views on values align with several competencies outlined in Green Comp (2022). This framework emphasizes values as essential competencies, recognizing the importance of embodying sustainability values. These include valuing sustainability itself, supporting fairness, and promoting the conservation of nature (European Commission, 2022). Similarly, the respondents identified important values, but also approaches to values. Particularly in being open to changing one's values, and appreciating the diversity of values. This can be related to what KSC (2021) refers to as values thinking, which they state as part

of planning competencies. Additionally, KSC emphasizes intrapersonal competence, which involves recognizing and interpreting one's own emotions and thoughts. They state this as crucial for driving substantial sustainability changes and aligns with the respondents' views on the significance of these qualities.

7.5.1 Discussion Points

Based on the analysis above, the fundamental values for working with sustainability can be divided into three dimensions, each equally crucial for business students. *The first dimension* consists of recognizing one's personal values and how to reevaluate them, while also acknowledging and understanding their practical implications. Sustainability entails a fundamental shift in society and in business practices. Hence, business students also need to reevaluate their core values to better understand the human-nature relationship, moving beyond traditional profit-driven methods. *The second dimension* focuses on the ability to empathize with humans and nature, valuing diverse and holistic perspectives. This empathy should be accompanied by genuine integrity, which means that business students should not only espouse sustainable values but also live by them. *The third dimension* underscores the importance of business students' alignment between values and actions. This can counteract the current dichotomy between declaring sustainability goals and taking actual sustainable actions. This includes, the commitment and willingness to integrate new knowledge and ensure that one’s actions align with professed values.

7.6 The Competence Framework for Business Students

In the previous section, the thesis’s result on sustainability competence was expanded with established frameworks; GreenComp and KSC. Based on the discussion points derived from the analysis, the framework ‘KSAV: Sustainability Competence for business students’ has been created. The framework follows the same structure of competence aspects divided into Knowledge, Skills, Attitudes, and Values. Further, each aspect in the framework has been segmented into three dimensions. This integrated perspective provides a deeper insight into how business students can effectively contribute to sustainability in their future professional roles. Even if they are theoretically distinct, they are often interrelated in practice and hold different importance in different situations.

The integration of the four aspects within the KSAV framework underscores the interconnected nature of sustainability competence. This relationship was evident in the result of the thesis. Knowledge often influences values, which in turn shape attitudes and drive the development of skills. Correspondingly, knowledge or values in sustainability does not necessarily lead to action without proper skills and attitudes. This means that each aspect supports and enhances the others, creating a comprehensive and balanced competency framework. As the field of sustainability evolves, the KSAV framework can serve as a dynamic and adaptable tool for the development of sustainability competence in business education. Each aspect and dimension is thoroughly represented, with a more detailed version available in Appendix E, where they are further elaborated.

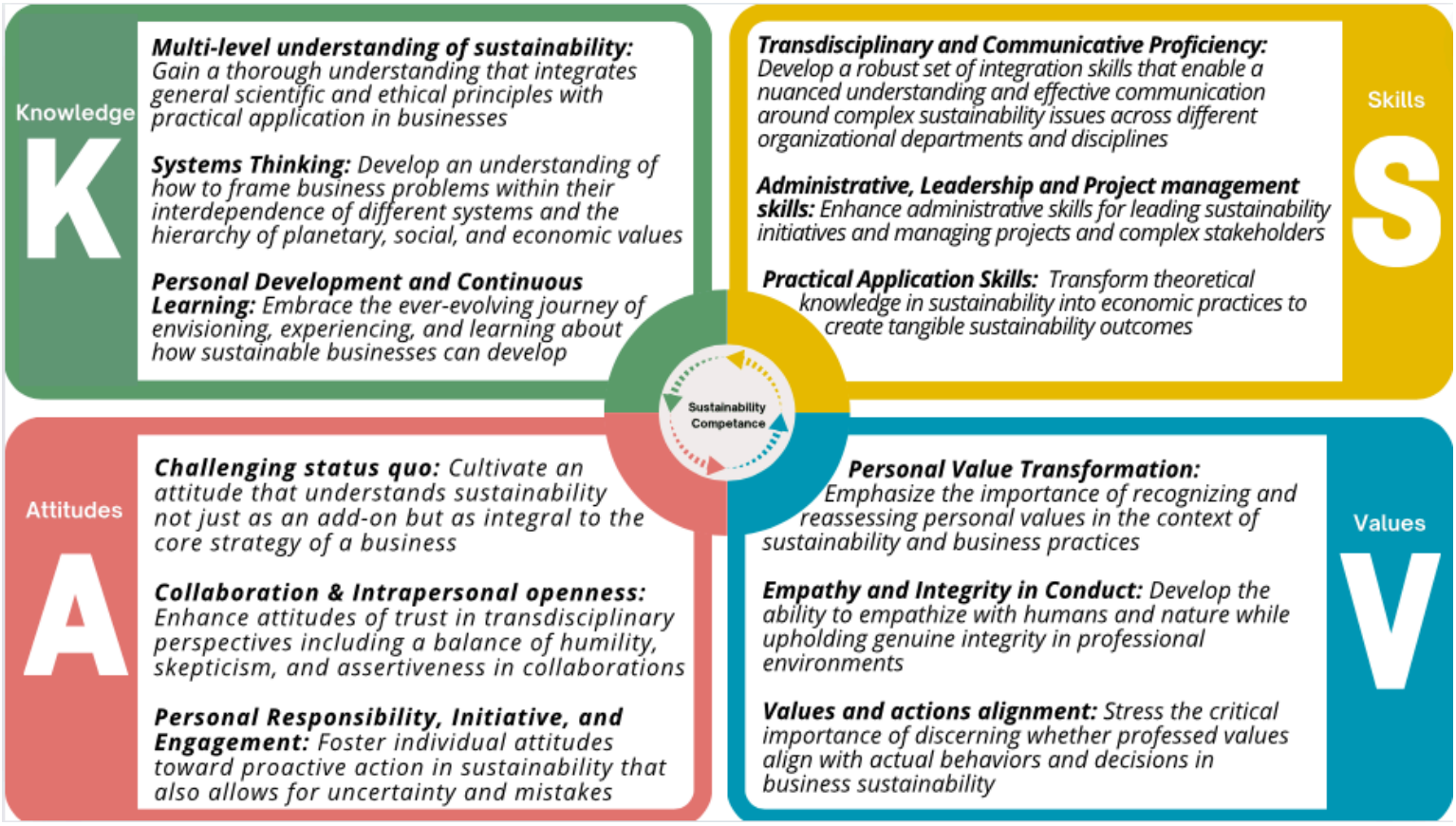

Figure 5: A Concise Illustration of the KSAV Framework for Business Students

Dividing the aspects into dimensions, mirrors the method parallels Wiek and Redman's (2021) approach in the KSCs that categorizes sustainability competence on different levels, such as general competencies and planning competencies. However, the KSCs conceptualize competence as broad categories comprising several competencies. Meanwhile, this study subdivides sustainability competence into distinct, yet interconnected aspects which collectively define overall sustainability competence. This mirrors the integrative approach of GreenComp's (2022) four competencies, where each part supports and enhances the others.

This thesis argues that the comprehensive understanding of KSAV is helpful for developing sustainability competence for business students. Incorporating recent advancements in sustainability is crucial to equip business students with the competence necessary for driving sustainability transformations. For the KSAV framework it is especially interesting to review the challenges in integrating sustainability into business school education, researched by Dyllick (2015. Particularly the challenge of business schools being dominated by market logic and favoring functional knowledge over integrative thinking. Another practical aspect for competence is underscored by Annelain and Boström (2022), namely to formulate assessment tools to evaluate students' prior experiences before designing educational needs. A similar approach would be relevant for the KSAV framework. Particularly, such an assessment tool could center the challenges that Dyllick (2015) mentions.

7.7 Sustainability Competence for Corporate Sustainability

This section examines how the thesis's result correlates with the issues mentioned in the problem analysis. The aim is to close the loop and evaluate the contextual and practical relevance of the thesis.

7.7.1 Sustainability Competence for Wickedness in Corporate Sustainability

In the introduction of this thesis, corporate sustainability was framed as a wicked problem according to the five characteristics stated by Camillus (2008). This wickedness was exemplified by various aspects of mandatory sustainability reporting initiatives. The European Green Deal. These were elaborated with perspectives on integration of sustainability metrics from Rockström et al (2023), ending with an argument that wicked problems require ongoing management. Considering the aim of the thesis, this discussion starts with evaluating the study's result compared to the challenges related to the five characteristics of wickedness. Here, the interdependence of the four aspects is further evaluated and connected to the practical dimension of the new regulations.

First, it was stated that the challenge was unprecedented (Camillus, 2008). Especially, the need for business professionals to now understand both the 'inside-out' and 'outside-in' perspective (EU Commission, 2024). This corresponds to the common themes in the competence aspect of knowledge. Especially the need for Continuous learning in how we as a society Envision a sustainable future and how it relates to Ethical concerns. The novelty in a reporting principle of double materiality can also be related to the Attitude dimension of accepting sustainability as a prerequisite to business. Considering the unprecedented and complex nature of the new mandatory directives, the Value dimension of recognizing and redefining personal and organizational Values is also relevant.

The second characteristic and challenge was related to Conflicting Values and Interests between multiple stakeholders throughout the value chain (Camillus, 2008). This challenge has been highlighted in this thesis as part of several aspects of sustainability competence. First, Understanding the Conflicting Values between different stakeholders and Values across the Value Chain requires sustainability knowledge on all three dimensions. However, Systems thinking to understand businesses' Interconnectedness, dependence, and Impact on Sustainability appears especially significant for business students. Further, the new directives demand businesses to put this Knowledge Into Practice and actually have a positive impact. This requires skills such as Transdisciplinary Navigation and the ability to Translate Sustainability Theory into Economic Practice. Considering that many companies identify a lack of internal sustainability competence as a demanding challenge (UNGC, 2022), this also relates to the attitude dimension of believing in sustainability. For business students entering a new workplace, it may also be important to have both Humility and Openness, coupled with a 'Can-Do Attitude' that allows for mistakes. Further, this can be connected to the requirements in CSDDD to account for adverse human rights and environmental impacts (European Council, 2024). Here, the value dimension of understanding the practical implications of

different values appears crucial for issues related to different stakeholders across the value chain.

The third characteristic is the intertwined, historical causality of the issue. Especially concerning how a company is traditionally defined and understood (Camillus, 2008). This was related to the novel principles of double materiality and accounting the interconnectivity between financial and non-financial values. In parallel, unifying economic and sustainability goals is seen as a challenge by Swedish companies (UNGC, 2022). This topic was also prevalent in the thesis's result, relating to all four aspects of sustainability competence. First, the Knowledge of Systems Thinking, and specifically in Understanding the Hierarchy between Planet, Society and Economics. Secondly, the challenge of the traditional definition of a company is related to the Skill to Translate Sustainability Theory into Economic Practice. For instance, this includes risk and investment analysis and the ability to discern the importance of different values. This skill is crucial for aligning economic targets with sustainability goals and can be related to the SFDR set by the European Commission (2023). Thirdly, it corresponds to an Attitude of Accepting Sustainability as a Prerequisite for Business Success, including financial success. Ultimately, this can also be related to the Value dimension of Aligning Principles with Practice and Committing to Integration.

The fourth characteristic is how our understanding of the issue evolves as we propose and evaluate solutions (Camillus, 2008). This was connected to how the new directives have been developed from previous ones. This includes the practical challenge that arises with implementation as our understanding of corporate sustainability evolves. The competence that can be related to this challenge is the need for Technical and Regulatory Knowledge. Further, Continuous learning and Envisioning of How Sustainable Futures Look can also be relevant to understand. Relevant skills for this challenge can be Evaluation- and Measurement Skills. Additionally, Multidimensional Analytical Skills appear beneficial to further our understanding of corporate sustainability. To do so, one can posit that the attitude dimension of Genuinely Believing In Sustainability and having the courage to make mistakes is important. The value correlated to meeting the challenge of the ever-evolving sustainability issues, can be the dimension of Shifting One's Values According To New Experiences and Knowledge.

The fifth characteristic states the challenge of how the correct, or best, solutions remain elusive (Camillus, 2008). This was correlated to the fact that we do not yet know the practical consequences of sustainability reporting, whether they will have a meaningful impact or not. Further, it was related to the challenge of knowing that our current system exceeds the safe planetary boundaries, knowing what needs to change, but not having feasible solutions. This challenge can be related to the skills dimension of Leading Sustainability, where Coordination and Collaboration was highlighted in this thesis. Further, the attitude of maintaining a Can-Do Attitude as well as an attitude of Oneness With Nature and Society, appears important.

In summary, by examining the five characteristics, different aspects of competence appear essential for different challenges related to the wickedness of corporate sustainability. However, the unwavering demand for sustainability competence to mitigate the risks inherent in unsustainable business practices, is evidently clear. As Global Compact Sweden (2022) showed, the increasing regulatory pressure is a demanding challenge for Swedish companies. Especially regarding increased costs since internal employees do not hold adequate sustainability competence. In parallel, many Swedish companies also lack knowledge in how to unify sustainable development with economic targets. These issues are often mitigated by hiring costly, external expertise (UN GCNS, 2022). Hence, the importance of implementing sustainability competence in business education is crucial. Not only would it lower the need of hiring external consultants, it would also increase the likelihood of business practices that proactively integrate sustainability. As previously mentioned by Microsoft (2022), this competence challenge is different from previous ones, since it entails adapting to natural laws within an urgent time frame.

7.7.2 Challenges with Sustainability Competence for Business Students

The problem analysis discussed the increasing responsibility on business schools to educate future decision-makers, referencing three challenges identified by Dyllick (2015). The first challenge was a narrow focus on functional knowledge rather than integrative thinking. This study emphasized the need for functional knowledge. However, the common theme was functional knowledge that integrates sustainability theory into economic practice. For instance, valuing biodiversity in investment analysis. One can posit that the competence that correlates to Dyllick's issue, is the skill to translate theoretical sustainability knowledge into economic practice. A skill one can argue would be essential for business schools to hold knowledge in, and consequently teach business students. However, as Dyllick mentions, business schools are often dominated by a market logic, lacking a plurality of values. This can be contrasted with the importance of transdisciplinary navigation and openness to understand other perspectives, which was highlighted in this study. Additionally, the study mentions the ability to shift one's underlying beliefs if they are contradictory to new knowledge. Another recurring theme was the importance of recognizing one's values, and being aware of the ethical implications of different economic practices. This can be connected to the third challenge that Dyllick (2015) refers to, a dominance of amoral theories and a missed focus on the importance of ethics and values in practical challenges. This is an aspect that one can correlate to ensuring that students obtain knowledge in sustainability from lived experience. By continuously learning, experiencing and envisioning what sustainability is in a business context, students could learn to discern the practical consequences of amorality, inherent in parts of their education.

Regulations and demands regarding organizations' sustainability initiatives are ever-evolving; new regulations are constantly set, making it hard to follow. Further, whether they lead to tangible sustainability improvements remains unclear. That makes it crucial for both business practice, and sustainability competence to be proactive and based on science and ethics rather

than on regulations. Considering the urgent transformation that society and business practices need, KSAV therefore lays the foundation for a minimum standard for what sustainability competence business students should access. It makes it more accessible and tangible to understand what the baseline should be regarding sustainability competence. Similar to the new EU directives, that are not necessarily the ultimate goals but rather sets a minimum requirement on organizational sustainability requirements. Poorly defined sustainability competence can lead to greenwashing, exaggerated claims under regulatory pressure, with dire sustainability consequences. Therefore, defining both sustainability and sustainability competence for business students according to science and ethics is crucial.

Today, business practices must adapt to basic scientific principles and acknowledge their ethical implications. This shift changes the perception of sustainability from being a matter of external, regulatory pressure to becoming an integral part of a business's operations. Sustainability should be embedded in the core competence of any business and seen as vital for the survival of the business. In the long run, it should simply be considered as a standard competence, as fundamental as understanding that a business must earn money to survive. Therefore, business schools can facilitate the understanding of the KSAV framework to assist students to develop the minimum standard for sustainability competence in business practices. By doing so, they can contribute to increasing sustainable development within businesses and in society.

8. Conclusion

This chapter addresses the thesis research questions and presents conclusions derived from them. Additionally, it outlines the thesis limitations and provides suggestions for future research.

8.1 Summary of Findings

This thesis has comprehensively examined the sustainability competence essential for business students. Especially considering the rising regulatory demands in the EU and the urgency of shifting businesses to sustainable practices. By addressing the initial research questions the following conclusion can be drawn.

What sustainability competence is essential for business students according to business professionals and academic experts in Sweden?

Business professionals and academic experts emphasized the growing demand of sustainability competence in order for business students to contribute to corporate sustainability. The study found three common themes for each aspect of the operational definition of competence. Essential knowledge according to the stakeholders included defining sustainability on different levels, both on a holistic perspective, an organizational level and on an individual professional level. Further, systems thinking and continuous learning were the two other themes. The common themes for skills were transdisciplinary navigation, leading sustainability and translating sustainability theory into economic practice. Respectively, the common themes in attitudes were accepting sustainability as a prerequisite to business, an attitude of humility and openness, and an attitude for sustainable practice. Lastly, in the values aspect the common themes were to recognize and redefine ones values, values of empathy and integrity, and values for aligning principles with practice. The interconnectedness and mutually enhancing nature of these aspects were repeatedly highlighted. Together, they form an integrated overview and understanding of what sustainability competence that business professionals and academic experts find essential.

How does new sustainability requirements drive the need for sustainability competence for business students?

New regulations have made sustainability a mandatory prerequisite for a large share of European businesses. This shift, driven by regulatory and market demands, has resulted in a competence gap, making sustainability competence pivotal. As these requirements are pushing organizations to change their practices, basic sustainability competence should no longer be viewed as a niche competence related to regulations. Instead, it involves comprehending sustainability as a foundational principle for businesses, and acquiring competence to act proactively rather than reactively to regulations. This emphasizes the need for sustainability not being treated as a ‘soft’ value that is merely talked about, but rather should be addressed with the same rigor as any other aspects of business education.

In conclusion, this thesis underscores the imperative for business students to acquire crucial sustainability competence. This is evident in response to escalating regulatory pressures, the wickedness of corporate sustainability, and the inherent risks associated with inadequate sustainability competence. As sustainability regulations become more stringent, organizations are held to higher standards of transparency and accountability in their practices. Consequently, there is a growing demand for business students' proficiency in navigating these regulatory landscapes, and the wicked problems of sustainability within businesses. This evolution highlights the necessity for business students to possess not only foundational knowledge but also practical skills to effectively implement sustainable solutions. To meet these new demands, this study evaluated the perspectives of business professionals and academics, within the contextual challenge of corporate sustainability as a wicked problem. This consensus has led to the development of the KSAV competence framework for business students. In light of the ever-evolving regulatory environment, the urgent sustainability risks, this study argues that sustainability competence should be a natural part of business competence. By integrating the competence laid by the KSAV framework, business students will be better equipped to respond to the increasing expectations for organizations sustainability, ensuring that they can contribute to, and lead the transition toward more sustainable and competitive business practices.

8.2 Limitations

This thesis explores the essential sustainability competence for business students in light of more stringent sustainability regulations for organizations. Several limitations should be noted for a complete understanding of the findings.Firstly, due to the limited scope and timeframe of this thesis, stakeholders from fields not related specifically to corporate sustainability were not included. Secondly, the reliance on qualitative analysis introduces subjectivity. Even if the data analysis used a systematic framework approach to enhance transparency, a different set of researchers might interpret the same data differently, leading to variations in conclusions. Moreover, the focus on the European Green Deal limits the broader analysis of the applicability. Sustainability competence is crucial in many contexts, and may vary in regions or sectors with different sustainability mandates. Additionally, the thesis's temporal nature means the identified competence reflects the current regulatory and business environment. As sustainability evolves, so might the relevancy of specific competence. The lack of longitudinal data limits understanding how the competence changes over time. Lastly, the research is confined to business education. It does not consider how the competence is addressed in other educational settings, such as vocational training or non-business academic disciplines, which could also impact the sustainability competence landscape.

8.3 Suggestion for Future Research

Future research should broaden the sample diversity, incorporate quantitative methods, and conduct longitudinal and comparative studies to track and compare evolving sustainability competence. Investigating competence across various educational settings, including

vocational training and non-business disciplines, will provide broader insights. Examining the practical application of these skills in business settings will highlight their real-world impact.

Furthermore, to include a larger and more diverse sample of stakeholders, including more extensive representation, to enhance the comprehensiveness and accuracy of the thesis. Considering that the subject of transdisciplinarity was recurring in the study, including stakeholders with expertise in social and natural sciences, outside of the business sector, would further enrich the outcome of the thesis. This broader inclusion would contribute to a more holistic understanding of the issues at hand, ultimately leading to more robust conclusions and recommendations. The role of technology and innovation in shaping sustainability competence should be explored, alongside the impact evolving sustainability regulations. Additionally, studying cross-sector collaboration between academia, industry, government and other sectors will help identify crucial sustainability competence for business students. Gathering student perspectives would also create a broader understanding that educational programs align with the needs and expectations of future professionals.

Reference list

Alford, J., & Head, B. W. (2017). Wicked and less wicked problems: a typology and a contingency framework. Policy and Society, 36(3), 397–413. https://doi.org/10.1080/14494035.2017.1361634

Annelin, A., & Boström, G.O. (2022). An assessment of key sustainability competencies: a review of scales and propositions for validation. International Journal of Sustainability in Higher Education. https://doi.org/10.1108/ijshe-05-2022-0166

Anderson, E., Haylock, W., Hundloe, T., Molesworth AO QC, S. R., Morris AM, M. L., Roper-Lindsay, J., Skelton CNZM, P. R., & Womersley, J. (2014). The evolution of environmental management as a profession in Australia and New Zealand. Australasian Journal of Environmental Management, 21(2), 128–142. https://doi.org/10.1080/14486563.2014.936912

Arasa, D. (2024, February 13). How to improve your writing with AI. INQUIRER.net. https://technology.inquirer.net/131994/improve-writing-with-ai

Atwell, P. (1990). What is skill? Work and occupations Vol.17. No. 4. https://journals-sagepub-com.ezproxy.ub.gu.se/doi/pdf/10.1177/0730888490017004003

Barth, M., Godemann, J., Rieckmann, M., & Stoltenberg, U. (2007). Developing key competencies for sustainable development in higher education. International Journal of Sustainability in Higher Education, 8(4), 416–430. https://doi.org/10.1108/14676370710823582

Baumüller, & Sopp, K. (2021). Double materiality and the shift from non-financial to European sustainability reporting: review, outlook, and implications. Journal of Applied Accounting Research, 23(1), 8–28. https://doi.org/10.1108/JAAR-04-2021-0114

Bonnett, M. (2002). Education for Sustainability as a Frame of Mind. Environmental Education Research, 8(1), 9–20. https://doi.org/10.1080/13504620120109619

Bryman, A. and Bell, E. (2011) Business Research Methods. 3rd Edition, Oxford University Press, Oxford.

Camillus, J., & Head, B. W. (2008). Strategy as a Wicked problem. Harvard Business Review, 86 (5):98–101. https://www.researchgate.net/publication/251880254_Strategy_as_a_Wicked_Problem

Camillus, J. C. (2016). The wicked challenge of the business environment. International Journal of Business Environment, 8(1), 19.

Delgado-Ceballos, Ortiz-De-Mandojana, N., Antolín-López, R., & Montiel, I. (2023). Connecting the Sustainable Development Goals to firm-level sustainability and ESG factors: The need for double materiality. Business Research Quarterly, 26(1), 2–10. https://doi.org/10.1177/23409444221140919

Diener, E., & Crandall, R. (1978). Ethics in social and behavioral research. U Chicago Press.

Dragicevic, N. & Tsui, E. (2018) Use of scenario development and personal learning environment and networks (PLE&N) to support curriculum co-creation. Management & Marketing. Volume 12: Issue 2. Published Jul 04 2018 https://sciendo.com/article/10.2478/mmcks-2018-0009

De Haan, G. (2006), "The BLK '21' programme in Germany: a 'Gestaltungskompetenz'-based model for Education for Sustainable Development", Environmental Education Research, vol. 1/2006, pp. 19-32

D. Dentoni, O. Hospes, & Ross, R. B. (2012). Managing Wicked Problems in Agribusiness: The Role of Multi-Stakeholder Engagements in Value Creation EDITOR'S INTRODUCTION. 15, 1–12.

Dyllick, T. (2015), "Responsible management education for a sustainable world: The challenges for business schools", Journal of Management Development, Vol. 34 No. 1, pp. 16-33. https://doi-org.ezproxy.ub.gu.se/10.1108/JMD-02-2013-0022

Eraut, M. (1998). Concepts of competence. Journal of Interprofessional Care, 12, 127-139. https://doi.org/10.3109/13561829809014100.

European Commission. (n.d.). *The European Green Deal*. European Commission. Retrieved May 18, 2024, from The European Green Deal - European Commission

European Commission. (2022). GreenComp: The European sustainability competence framework. Joint Research Centre. EUR 30955 EN. https://joint-research-centre.ec.europa.eu/greencomp-european-sustainability-competence-framework_en

European Council. (2024) DIRECTIVE OF THE EUROPEAN PARLIAMENT AND Of THE COUNCIL on Corporate Sustainability Due Diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859. Official Journal of the European Council. https://data.consilium.europa.eu/doc/document/ST-6145-2024-INIT/en/pdf

European Council. (2023). DIRECTIVE (EU) 2022/2464 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting. Official Journal of the European Council.
https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022L2464

Global Competence Framework, PISA.(2018). OECD.
https://www.oecd.org/pisa/HandbookPISA-2018-Global-Competence.pdf.

Global Green Skills Report. (2023) LinkedIn
https://economicgraph.linkedin.com/content/dam/me/economicgraph/en-us/global-green-skills-report/green-skills-report-2023.pdf

Gonczi, A., Hager, P & Oliver, L. (1990). Establishing competency-based standards in the professions. Research Paper No. l, National Office of Overseas Skills Recognition, DEET (Canberra, Australian Government Publishing Service).

Hager, P., & Gonczi, A. (1996). What is competence? Medical Teacher, 18(1), 15–18. https://doi.org/10.3109/01421599609040255

Hager, P. (1994). Is There a Cogent Philosophical Argument against Competency Standards? Australian Journal of Education, 38(1), 3–18. https://doi.org/10.1177/000494419403800101

Hanel, P. H. P., Foad, C., & Maio, G. R. (2021). Attitudes and Values. Oxford Research Encyclopedia of Psychology. https://doi.org/10.1093/acrefore/9780190236557.013.248
Heiskanen, E., Thidell, Å., & Rodhe, H. (2016). Educating sustainable change agents: the importance of practical skills and experience. Journal of Cleaner Production, 123(1), 218–226. https://doi.org/10.1016/j.jclepro.2015.11.063

Iliffe, S., Wilcock, J., Drennan, V., Goodman, C., Griffin, M., Knapp, M., Lowery, D., Manthorpe, J., Rait, G., & Warner, J. (2015). Changing practice in dementia care in the community: developing and testing evidence-based interventions, from timely diagnosis to end of life (EVIDEM). Programme Grants for Applied Research, 3(3), 1–596. https://doi.org/10.3310/pgfar03030

Kearins, K., & Springett, D. (2003). Educating For Sustainability: Developing Critical Skills. Journal of Management Education, 27(2), 188–204.
https://doi.org/10.1177/1052562903251411

Le Deist, F. D., & Winterton, J. (2005). What Is Competence? Human Resource Development International, 8(1), 27–46. https://doi.org/10.1080/1367886042000338227

Lin, X. (2019). Review of Knowledge and Knowledge Management Research. American Journal of Industrial and Business Management, 09(09), 1753–1760. https://doi.org/10.4236/ajibm.2019.99114

Microsoft. (2022) ”Closing the sustainability Skills Gap: Helping businesses move from pledges to progress”. https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE5bhuF

Redman, A., & Wiek, A. (2021). Competencies for Advancing Transformations Towards Sustainability. Frontiers in Education, 6. https://doi.org/10.3389/feduc.2021.785163

Ritchie, J., & Spencer, L. (1994). Qualitative data analysis for applied policy research. In A. Bryman & R. G. Burgess (Eds.), *Analyzing qualitative data* (pp. 173-194). Routledge. https://doi.org/10.4135/9781412986274

Rittel, H. W. J., & Webber, M. M. (1973). Dilemmas in a general theory of planning. Policy Sciences, 4(2), 155–169. https://doi.org/10.1007/bf01405730

Rockström, J., Gupta, J., Qin, D., Lade, S. J., Abrams, J. F., Lauren Seaby Andersen, Armstrong, D. I., Bai, X., Bala, G., Bunn, S. E., Ciobanu, D., DeClerck, F., Ebi, K. L., Gifford, L., Gordon, C., Hasan, S., Norichika Kanie, Lenton, T. M., Loriani, S., & Liverman, D. (2023). Safe and just Earth system boundaries. Nature, 619. https://doi.org/10.1038/s41586-023-06083-8

Salovaara, J.J., Soini, K. & Pietikäinen, (2020). J. Sustainability science in education: analysis of master’s programmes’ curricula. Sustain Sci 15, 901–915. https://doi.org/10.1007/s11625-019-00745-1

Thomas, I. (2018). Skills for Employment in the Environment Profession: Insights from Australia. 1(2), 8–24. https://doi.org/10.22024/unikent/03/ajpp.566

UNECE. (2012). LEARNING FOR THE FUTURE Competencies in education for sustainable development https://unece.org/fileadmin/DAM/env/esd/ESD_Publications/Competences_Publication.pdf

United Nations Federation. (2015). Transforming our World: The 2030 Agenda for Sustainable Development. https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf

UN Global Compact Sweden. (2022). "Transition report of 2022". https://globalcompact.se/app/uploads/2022/10/Transition-Report-2022.pdf

UN Global Compact Nordics. (2023). "The path towards 2030: Nordic Corporate Sustainability Stocktake." https://globalcompact.se/app/uploads/2023/09/ungc-the-path-towards-2030-nordic-corporate-sustainability-stocktake.pdf

Venn, R., Perez, P., & Vandenbussche, V. (2022). Competencies of Sustainability Professionals: An Empirical Study on Key Competencies for Sustainability. Sustainability, 14(9), 4916. https://doi.org/10.3390/su14094916

Appendixes

Appendix A: Green Comp: The European Competence Framework by the European Commission (2022)

AREA	COMPETENCE	DESCRIPTOR
1. *Embodying sustainability values*	1.1 **Valuing sustainability**	To reflect on personal values; identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values.
	1.2 **Supporting fairness**	To support equity and justice for current and future generations and learn from previous generations for sustainability.
	1.3 **Promoting nature**	To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems.
2. *Embracing complexity in sustainability*	2.1 **Systems thinking**	To approach a sustainability problem from all sides; to consider time, space and context in order to understand how elements interact within and between systems.
	2.2 **Critical thinking**	To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social and cultural backgrounds influence thinking and conclusions.
	2.3 **Problem framing**	To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems.
AREA	COMPETENCE	DESCRIPTOR
3. *Envisioning sustainable futures*	3.1 **Futures literacy**	To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future.
	3.2 **Adaptability**	To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity and risk.
	3.3 **Exploratory thinking**	To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.
4. *Acting for sustainability*	4.1 **Political agency**	To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.
	4.2 **Collective action**	To act for change in collaboration with others.
	4.3 **Individual initiative**	To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet.

Appendix B: Table 1, Detailed description of the respondents and their roles

Respondent	Academic position	Forskningsområde	Undervisningsområde	Interview details
AER1	Assistant Professor	Corporate finance & Strategic management Corporate sustainability	Corporate finance Strategic management Corporate sustainability	In person, 60 minutes
AER2	Associate Professor	Sustainability reporting, Integrated reporting, Accounting regulation, Accounting communication	Accounting Sustainability accounting Essay writing	Digital, 45 minutes
AER3	Senior Lecturer	Corporate Social Responsibility Business Administration Business schools sustainability role	Business ethics and CSR Management	Digital, 45 minutes
AER4	Professor	Organizational theory Business Ethics	Organization theory, Ethics Sustainable development	Digital, 60 minutes

Respondent	Role	Sector/industry	Interview details
BR1	Currently works as a senior manager & team lead for sustainability services. Formerly worked as Global Sustainability director	Currently works in Consultancy agency that provides various sustainability services Formerly worked it the Industry technic sector	Digital, 30 minutes
BR2	Works as Social and Financial Sustainability lead	Transportation sector	Digital, 60 minutes
BR3	Works as Climate and Environment Responsible	Regional trade association	Digital, 60minutes
BR4	Works with sustainability training for executives	Sustainability consultancy	Digital, 60minutes

Appendix C: Interview questions

1. What kind of knowledge do you view as necessary for business students?
2. What knowledge do you think is most difficult to integrate in current practice?
3. What skills do you think will become more important as sustainability regulations are strengthened and changed?
4. What attitudes do you feel are important when working with sustainability/ when integrating sustainability work within an organization?

5. Are there any values that you consider important for working with sustainability, and particularly for business students?

Appendix D: Table 2, Main points made by each respondent in every aspect.

	Knowledge
BR1	- Basic understanding of sustainability - Comprehend the sustainability impact of one's professional role - A deep understanding of both mandatory legal standards and voluntary practices especially initiatives as the European green deal
BR2	- Proficiency in IT, system comprehension, and regulatory frameworks related to sustainability data - Knowledge of the environmental impacts within one's department, coupled with an organization-wide awareness of sustainability issues, extending to the value chain. - Understanding and valuing ecological and social sustainability, into the business practices. Especially human rights and biodiversity - Continuous learning through both academic studies, and field experience is valuable
BR3	- Understanding regulations such as CSRD - Understanding the consequences of regulations on companies - Important to renew one's knowledge
BR4	- How to define sustainability within you organization - Systems thinking and knowledge to distinguish the hierarchy and interconnectivity of them - That the planet is the base, while society is a construct that we can re- and codesign - Envisioning a sustainable future and businesses role in it

	Skills
BR1	- Have the ability to evaluate environmental and social impacts.
BR2	- Effective communication skills - Coordination skills - Project Management skills - Good collaboration skills - Effective risk management skills, especially understanding and managing the risks associated with purchasing decisions
BR3	- The ability to communicate effectively - Collaboration and cross-functionally within different departments to drive 4 - Lead and organize sustainability initiatives within an organization
BR4	- Listening to self, to others, to group dynamics and to systems. - Generative listening that together enables us to hear new things and innovate - Listening first from a wide perspective, and then go back to listening from a business mindset

	Attitude
BR1	- Positive attitude towards sustainability and a climate-positive status - Accepting climate change as one's professional responsibilities - Seeing sustainability as a strategy for growth and competitive advantage
BR2	- Humility and a genuine need to listen and consider others' perspectives - Openness to engagement and having a collaborative trust among team members. - Having the courage to challenge ideas - Strike the right balance between humility and avoid to be overly passive
BR3	- Dare to make mistakes and learn from the process - Dare to make small changes - Being proactive and willing to be the forefront of sustainability issues
BR4	- A mindset of oneness with humanity and nature, rather than separation - Openness to shift your own underlying beliefs - Courage to embrace collaboration - A genuine belief in sustainability leading to benefits for all

	Values
BR1	- Desire, will, passion, and honesty, which are deemed crucial for maintaining our ethical framework. - Commitment to ethical principles and human rights
BR2	- Keen interest in sustainability - Recognizing sustainability value while cautioning against an overly idealistic approach - Balancing enthusiasm with the practical realities of ensuring organizational survival - Empathy and care for people, customers and the organization - Commitment to humans and relationships ,
BR3	- Commitment to integrating sustainability as a central part - Valuing transparency and authenticity to avoid greenwashing
BR4	- Integrity to walk the talk - Approaching values as polarities, and understanding the polar counterpart

	Knowledge
ER1	- Lived experience and interaction with stakeholders that embody sustainability - A personal relation to what sustainability means - Biodiversity and its connection to financial decision making
ER2	- Understanding how different factors influences one another and are linked to various industries - Being able to analyze and understand different factual cases to highlight the interconnected issues
ER3	- In-depth knowledge of theoretical and conceptual understanding

	- Identify and apply relevant strategies and practices - Competencies surrounding CSRD, ESRS and GHG - Technological knowledge
ER4	- Basic understanding of scientific principles - Understanding the environmental impacts of economic activities - Knowledge of environmental conditions such as cycles if the earth systems and ecosystems - Understand the importance of social and environmental sustainability

	Skills
ER1	- Ability to engage others, daring to push one's interest in sustainability and executive function - Intercultural understanding of leadership - Shifting perspectives and understanding different context - Evaluating sustainability aspects in investment analysis - Address the underlying values inherent in our beliefs and cultures.
ER2	- Understand sustainability as a multidimensional concept - Be able to navigate across different disciplines from diverse fields - Digitization and data skills - Understand problems from multiple perspectives
ER3	- Being able to effectively identify and manage various issues - Implementing the necessary changes to improve company's operation - Effectively drive and lead sustainability initiatives
ER4	- Analytical skills to be able to evaluate and apply knowledge correctly in practical situations. - The ability to translate theoretical knowledge into practical action within organizations - Communications skills, argue for non-financial values in economic decisions

	Attitudes
ER1	- Confidence without attitude - Mindset of understanding that sustainability is relevant for them personally - To see sustainability as a viable career option,
ER2	- View sustainability not as a separate issue but as an integral aspect of all organization
ER3	- View sustainability as a necessary to ones operation - Wanting to integrate sustainability principles into ones decision making
ER4	- Skepticism and humility - Be open to new perspectives - "Can-do" attitude

	Values
ER1	- Think to be the best for the world, not best in the world - Become a force for good by integrating more value perspectives

ER2	- Stewardship and foundational values in business practices - Awareness that extends beyond mere profit-seeking behavior - Appreciation for the resources provided by society and the environment - Empathize with different perspectives - Criticize short term financial focus
ER3	- Education shapes future generations
ER4	- Strong ethical foundation - Open to possible change - Appreciation for diversity and integrity of life - Fair approach to environmental issues

Appendix E: Detailed description of KSAV, the Sustainability competence framework for business students

Knowledge

Multi-level understanding of sustainability: Gain a thorough understanding that integrates general scientific and ethical principles with practical application in businesses. This dimension involves:

1. Scientific and Ethical Foundations: Master the foundational principles of environmental and social sustainability to guide ethical decision-making.
2. Corporate Implications: Analyze how these principles influence corporate policies, focusing on alignment with broader sustainability objectives.
3. Individual Responsibility: Define and refine the specific roles and professional actions of individuals within their organizational context, ensuring their contributions support overarching sustainability goals.

Systems Thinking: Develop an understanding of how to frame business problems within their interdependence of different systems and the hierarchy of planetary, social, and economic value. This dimension involves:

1. Problem Framing: Learn to effectively frame and contextualize sustainability issues within and across various industries, recognizing the complex interdependencies involved.
2. Interconnectivity Analysis: Master the ability to identify and analyze the interconnected effects of various environmental, social, and economic factors, emphasizing how changes in one area can impact others.
3. Ecological and Social Considerations: Understand the critical importance of ecological and social dimensions within business practices, ensuring that sustainability is integrated into the core strategic decision-making process.

Personal Development and Continuous Learning: Embrace the ever-evolving journey of envisioning, experiencing, and learning about how sustainable businesses can develop. This dimension involves:

1. Ethical Imperative: Recognize and integrate the ethical responsibilities associated with sustainability into personal and professional life, underscoring the moral foundations of sustainable practices.
2. Continuous Learning: Commit to ongoing education and self-improvement in sustainability, acknowledging the dynamic nature of the field and the need to stay current with the latest research, trends, and practices.
3. Practical Application for Business Students: Highlight the importance of these concepts for business students, preparing them to lead and innovate in sustainable business practices by applying their evolving knowledge and ethical considerations.

Skills

Transdisciplinary and Communicative Proficiency: Develop a set of integration skills that enable a nuanced understanding and effective communication around complex sustainability issues across different organizational departments and disciplines. This dimension involves:

1. Transdisciplinary Understanding: Cultivate an ability to grasp and integrate diverse disciplinary insights and approaches to sustainability.
2. Advanced Communication Skills: Hone communication techniques that facilitate clear, persuasive, and adaptive dialogues about sustainability across various stakeholder groups.
3. Multidimensional Analysis: Master analytical skills that allow for deep and nuanced understanding of complex sustainability issues, ensuring internal clarity and alignment within the organization."

Administrative, Leadership, and Project management skills: Enhance administrative skills for leading sustainability initiatives and managing projects and complex stakeholders. This dimension involves:

1. Leadership Capabilities: Develop leadership qualities that inspire and drive sustainable change within the organization.
2. Project Management Proficiency: Acquire skills in planning, executing, and monitoring sustainability projects, ensuring they align with strategic objectives.
3. Executive Functions: Strengthen abilities in decision-making, resource allocation, and strategy execution to effectively implement sustainability plans."

Practical Application Skills: Transform theoretical knowledge in sustainability into economic practices to create tangible sustainability outcomes. This dimension involves:

1. Outcome Measurement: Learn to discern whether the business is accurately measuring and evaluating sustainability factors using quantitative and qualitative methods.
2. Risk Analysis: Develop skills in identifying potential risks and devising strategies to mitigate them in sustainability initiatives.
3. Technology Utilization: Leverage digital tools and data analytics for enhanced decision-making in sustainability investments and implementations. Focus on the ability to effectively 'get things done' in a practical, timely manner."

Attitudes

Challenging status quo: Cultivate an attitude that understands sustainability not just as an add-on but as integral to the core strategy of a business. This dimension involves:

1. Business Integration: Foster a mindset where sustainability is seen as essential for long-term business success, integrating it into every strategic decision.
2. Proactive Engagement: Encourage attitudes that promote active participation in sustainability initiatives, viewing these efforts as opportunities for innovation and competitive advantage.
3. Long-Term Vision: Develop a forward-thinking approach that prioritizes sustainable outcomes over short-term gains, ensuring organizational resilience and sustainability."

Collaboration & Intrapersonal openness: Enhance attitudes of trust in transdisciplinary perspectives including a balance of humility, skepticism, and assertiveness in collaborations. This dimension involves:

1. Interpersonal Skills: Promote openness to changing underlying beliefs, fostering trust and respect among diverse groups.
2. Assertive Communication: Balance assertiveness and humility in discussions, advocating for sustainable practices while being open to feedback.
3. Stakeholder Engagement: Strengthen capabilities to engage with various stakeholders, balancing different perspectives and driving consensus on sustainability issues."

Personal Responsibility, Initiative, and Engagement: Foster individual attitudes toward proactive action in sustainability that also allows for uncertainty and mistakes.This dimension involves:

1. Personal Accountability: Encourage a sense of personal responsibility for sustainable actions, empowering individuals to take initiative.
2. Confidence and Courage: Build confidence to engage with sustainability challenges, including the courage to make mistakes and learn from them.
3. Continuous Self-Improvement: Promote an attitude of continuous learning and self-development in sustainability, adapting to new information and evolving practices."

Values

Personal Value Transformation: Emphasize the importance of recognizing and reassessing personal values in the context of sustainability and business practices. This dimension involves:

1. Self-Reflection: Encourage continuous reflection on one’s own values, understanding how they impact decision-making in both personal and professional contexts.
2. Value Shift: Promote the necessity of shifting from traditional profit-driven approaches to values that prioritize sustainable and ethical practices.
3. Practical Implications: Highlight the practical implications of these values in real-world business scenarios, ensuring that students comprehend how to implement these values in their future careers."

Empathy and Integrity in Conduct: Develop the ability to empathize with humans and nature while upholding genuine integrity in professional environments. This dimension involves:

1. Diverse Perspectives: Foster an understanding of and empathy for diverse perspectives and experiences, enhancing the capacity to address complex sustainability challenges.
2. Living Values: Encourage students not only to espouse sustainable values but to actively live by them, bridging the gap between theory and practice.
3. Consistent Integrity: Address the common issue of a lack of integrity in sustainability efforts by promoting consistent actions that reflect declared sustainability values and goals."

Values and actions alignment: Stress the critical importance of discerning whether professed values align with actual behaviors and decisions in business sustainability. This dimension involves:

1. Commitment to Values: Instill a strong commitment to sustainable values, encouraging students to integrate these values deeply into their decision-making processes.
2. Actionable Sustainability: Ensure that students are equipped to translate their sustainable values into concrete actions that positively impact their environments.
3. Reflective Practice: Promote ongoing self-assessment and adjustment to align actions with evolving sustainability knowledge and values."