Sustainability Indicators in Practice: Insights from Expert Companies in Finland

Kristiina Brusila-Meltovaara[1], Heidi Myyryläinen[2] and Marja Katisko[3]
[1]LAB University of Applied Science, Lahti, Finland
[2]LAB University of Applied Science, Lappeenranta, Finland
[3]University of Helsinki, Finland

kristiina.brusila-meltovaara@lab.fi
heidi.myyrylainen@lab.fi
marja.katisko@helsinki.fi

Abstract: This multiple case study examines how knowledge intensive expert organizations measure sustainability in Finland. Through interviews eleven leaders of expert companies, the research identifies the need for tailored measurement tools. The findings reveal a variety of available metrics and the necessity for specific indicators for expert companies**.** Defining sustainability presents two significant challenges, firstly the lack of a unified definition and secondly the diversity of synonyms used in the literature. Furthermore, sustainable development is a continuous and guided societal change that occurs at global, regional, and local levels. Its goal is to ensure good living conditions for current and future generations. This study found that current metrics are perceived as fragmented and are also not used purposefully. New metrics could help companies assess sustainability more comprehensively. This research also highlights a need for metrics that are easy to use and reliable. The results of this study also show a need for new, unified sustainability metrics, as current metrics are fragmented and often lack purposeful use. By developing clear and reliable metrics, companies can assess sustainability comprehensively and consistently. Sustainable leadership can be defined as an ethical practice aimed at helping groups of people achieve significant environmental or societal goals. Sustainable leadership combines strategic and operational as well as financial information and integrates it with non-financial information, to make sustainable decisions. Successful sustainable leadership is more than just financial profit; it encompasses mental, physical, and social dimensions. Organizations actively address societal challenges, invest in their communities, and consider employees in all decision-making. The leaders interviewed in this study recommend involving the entire staff in promoting sustainability and ensuring management commitment

Keywords: Sustainability, Sustainable leadership, Sustainability metrics, Expert companies, Finland

1. Introduction

Sustainable business practices are essential for ensuring planetary health and societal well-being in the long term (United Nations, 2015). Companies have increased efforts to operate sustainably (Acuti et al, 2022). Stakeholders, customers, funders and the society are demanding greater accountability and responsibility from companies, increasing the pressure to implement sustainable practices, all aims promoted by the Sustainable Development Goals (United Nations, 2015). Climate change affects nearly all industries in various ways. Companies must assess both direct physical risks, such as extreme weather events and rising sea levels, and indirect risks related to climate mitigation efforts and changing consumer preferences. Additionally, companies face liability risks associated with their role in combating climate change. Societal and political changes, and individuals' awareness of sustainable development, directly influence leadership types (Wessberg et al, 2022).

Sustainability is a timely topic for sustainable management in companies. Changes in our living environment caused by climate change make the subject current as it deepens the understanding of sustainable management, sustainability metrics in use, and potential challenges. Although management has been widely studied, this research provides an overview of sustainability and the sustainability metrics in use in Finnish expert companies (Malinen, 2023). This research aims to answer the research question of how sustainability is defined, and the sustainability metrics utilized by expert companies in Finland. The research also establishes recommendations to others with regards to sustainability metrics and measures. The research consists of a multiple case study, where eleven leaders of expert companies in Finland are interviewed and examines specifically how knowledge intensive expert organizations measure sustainability. The findings reveal a variety of available metrics and the necessity for specific and tailored measurement tools and indicators for expert companies.

2. Literature Review

The two key challenges of sustainability are the lack of a unified definition, and the variety of synonyms used in literature (Proctor et al, 2015). According to the Finnish Ministry of the Environment, a comprehensive definition of sustainability encourages implementers to consider what they aim to maintain in terms of sustainability at

the individual level, organizational or system level, and the level of outcomes (Ministry of the Environment). Sustainable development is a continuous and guided societal change that occurs at global, regional, and local levels. Its goal is to ensure good living conditions for current and future generations (Moore et al, 2017).

Sustainability research approaches have varied. Differences in the definitions of sustainability relate to relationships between economic growth and sustainability. (Heikurinen, 2014) The concepts of sustainability can be divided into two main categories: weak and strong. Weak sustainability assumes that human-made capital and natural capital are interchangeable. Depletion of natural resources can be compensated by human-developed resources. Economic growth is considered sufficient for sustainability, and limiting consumption is not seen as necessary. Strong sustainability is based on the finiteness and irreplaceability of natural resources. Human activities, both economic and social capital, within the Earth's ecosystem can at most support natural systems but not replace them. Natural resources and processes are seen as unique, and their overuse is viewed as a threat to the balance of ecosystems (Heikurinen, 2014; Dedeurwaerdere 2014). Both approaches have been criticized. For weak sustainability, it is difficult to monetarily assess sustainability capital, for example, clean air is irreplaceable, or its replacement is difficult to evaluate (Martínez-Alier, 1995; Neumayer, 2003). The strong sustainability approach has been criticized as impractical because it requires knowledge of needs of future generations (Neumayer, 2003), and because it subordinates human needs (Beckerman, 1994).

Sustainability can be described as having three fundamental pillars, which emphasize the balance between economic, social, and environmental dimensions. From an economic perspective, the dimensions are seen as different forms of capital (Dyllick & Hockerts, 2002): economic (e.g., monetary profit, buildings, infrastructure), social (e.g., people, culture), and environmental capital (e.g. raw materials, ecosystem services).

Companies that aim to practice sustainable business often seek to address sustainability issues at both local and global levels (Dyllick & Muff, 2016). This approach aligns with the theoretical framework of sustainability, which emphasizes the interconnectedness of environmental, social, and economic dimensions—commonly referred to as the three pillars of sustainability. Sustainable business enables balanced economic growth without incurring debt or over-consuming capital reserves and considers the carrying capacity of the environment and future generations. A sustainable and stable economy provides the foundation for all other aspects of sustainable development (LUT University). The integration of digital technologies and sustainable practices offers organizations the opportunity to improve operational efficiency, reduce environmental impacts, and promote holistic sustainability (Melo et al, 2024).

Responsible business, or corporate responsibility, considers the social, environmental, and economic impacts of company operations. This means a strive towards acting ethically and sustainably, exceeding mere legal requirements. Responsible business treats its stakeholders well in daily interactions (Waddock & Rasche, 2012). Sustainable business is seen as a competitive advantage for organizations (Garcia-Torres et al, 2019). Since the end of the last century, supply chains, which include activities related to product design, production, and marketing, have grown significantly driven by the pursuit of competitive advantage through specialization and cost reduction (Handfield, 1999). The change is visible at the international level, with many supply chain actors located in developing countries (Gereffi, 1999). Competition shifted from individual companies to multi-level and complex supply chains, where business relationships were intricate (Lambert & Cooper, 2000). This development brought the challenge of managing the new structure responsibly from both stakeholder and environmental perspectives.

Sustainable leadership can be defined as ethical action aimed at helping groups of people achieve significant environmental or societal goals (Bendell & Little, 2024). Sustainable leadership requires leaders with exceptional abilities. They must be able to interpret and anticipate complex situations, analyze multifaceted problems, engage groups in dynamic and adaptive organizational change, and possess emotional intelligence to manage their own emotions as part of solving complex problems (Metcalf & Benn, 2013). Adding sustainability thinking to traditional leadership or bringing leadership into sustainability projects is not enough. A critical examination of leadership can help dismantle harmful structures and enable a broader range of people to promote sustainability in various ways. Sustainable leadership requires re-evaluating traditional leadership concepts. The perspective should be broadened to include critical sociology, deep psychological reflection, and nature-inspired insights. The challenge for sustainability and corporate responsibility experts is to expand their expertise from environmental and societal themes to a deeper understanding of leadership and its development from a critical perspective (Bendell & Little, 2024).

The sustainable success aimed at by sustainable leadership means a holistic approach combining economic profit with mental, physical, and social dimensions (Hilvo et al, 2023). Sustainable leadership is a comprehensive

approach covering business, society, and the environment. The organization actively participates in addressing societal challenges, invests in its community, and considers employees in all decision-making. Ethical principles, human rights, and the environment are included in decision-making. Continuous learning is one of the prerequisites for sustainable leadership, as is resilience. Resilience refers to an organization's ability to adapt and survive changes in the operating environment, such as economic crises, technological disruptions or geopolitical disturbances. Resilience also means the ability to innovate and leverage changes in business development. Organizational flexibility should be part of the organizational culture and strategy to ensure sustainable leadership (Brusila-Meltovaara & Thompson, 2021).

To integrate sustainability in leadership, sustainability metrics and tools should incorporate both strategic, operational, and financial information and non-financial information (Mio et al, 2022). Sustainability research has shifted from broad studies to more specific ones, such as mechanisms that explain and guide companies towards sustainability. Scholars have noted the need to understand sustainability in context (Dedeurwaerdere, 2014).

3. Theoretical Framework

This study is based on a multidisciplinary theoretical framework integrating concepts from sustainability science, sustainable leadership, and corporate responsibility. The framework based on the literature review provides the conceptual basis for analyzing how expert companies in Finland define, measure, and implement sustainability. The key concepts of the theoretical framework are sustainability, weak vs strong sustainability, sustainable leadership, sustainability indicators and metrics and corporate responsibility.

Sustainability is a continuous and guided societal change aimed at ensuring good living conditions for current and future generations (Moore et al., 2017). It encompasses three interdependent dimensions—environmental, social, and economic—often referred to as the "three pillars" of sustainability (Dyllick & Hockerts, 2002). These dimensions are treated as distinct forms of capital: natural, human/social, and economic. The theoretical framework distinguishes between weak sustainability, which assumes interchangeability between human-made and natural capital, and strong sustainability, which emphasizes the irreplaceability and finiteness of natural resources (Heikurinen, 2014; Neumayer, 2003). This distinction is critical for understanding how companies prioritize and measure sustainability, especially in sectors with varying environmental impacts.

Sustainable leadership is defined as ethical and strategic action aimed at achieving significant environmental and societal goals (Bendell & Little, 2024). It involves integrating financial and non-financial information to guide decision-making and promote resilience, innovation, and stakeholder engagement (Metcalf & Benn, 2013; Brusila-Meltovaara & Thompson, 2021). This concept is particularly relevant for expert organizations that operate in knowledge-intensive sectors. The theoretical framework incorporates the use of sustainability metrics to monitor and evaluate performance across environmental, social, and economic domains. While global frameworks such as the UN SDGs offer comprehensive indicators, their practical application in SMEs and expert organizations remains challenging due to fragmentation and complexity (Parris & Kates, 2003; Mio et al., 2022).

Corporate responsibility is viewed as a strategic and ethical commitment to consider the social, environmental, and economic impacts of business operations (Waddock & Rasche, 2012). It extends beyond compliance to include stakeholder well-being, transparency, and long-term value creation. This theoretical framework informs the design of the study, the formulation of interview questions, and the interpretation of findings. It positions the research within existing scientific discourse and provides a structured lens through which sustainability practices in expert companies can be analyzed.

4. Methodology

Eleven leaders of expert companies in Finland were interviewed during with regards to sustainability issues to establish how knowledge intensive expert organizations measure sustainability and to in Finland. The interviews were undertaken between May and September 2023. Guest et al (2006) suggest that when looking at overarching themes a sample of six interviews may be sufficient to enable to develop meaningful themes and useful interpretations. This qualitative study focuses on thematic interviews with entrepreneurs or managers who lead enterprises in Finland and is grounded in a theoretical framework that views sustainability through the lens of environmental, social, and economic dimensions, as well as the concepts of weak and strong sustainability. The interviewees were purposefully selected with the following criteria. They are well established expert companies. These organizations have a stable business foundation, and they actively develop sustainability related services. They express this in their publicly available information, such as websites.

Interviews are an easily approachable research method, as people generally know what to expect when they are asked to be interviewed (Silverman, 2013). The interviewee can describe how things really are, which is the basis for qualitative interview-based research. (Hollway & Jeffersson, 2000)

The interviewees were asked for permission to undertake the interview beforehand and informed that the interviews were going to be recorded, transcribed and possibly used later for other purposes. (Pernaa, 2023) The purpose of the interview data is to comprehensively and diversely determine the sustainability metrics of companies, the visibility of sustainability in the company's strategy, and the company's values based on the views and experiences of the leaders of expert organizations The same interviewer undertook all the interviews over teams. Teams transcribed the interviews automatically. The transcribed interviews without the company names or the names of the people interviewed were analyzed by the copilot program available for the use of staff at LAB University of Applied Sciences. Eleven questions were asked in all the interviews in the same order and can be categorized as presented in Table 1.

Table 1: Categories of questions asked

Question group	Aim of questions
Background and area of operation	The overview of the company forms the background and basis for the interview
Sustainability	Determine how sustainability is defined by the company and what sustainable actions are undertaken
Measuring sustainability	How the company measures its sustainability?
Development of sustainability and recommendations	What recommendations the organization can give to others?

5. Findings

The interviewed companies specialize in specific fields such as sustainability and responsibility consulting, communication, or digital accessibility. Many have a long history and have evolved to meet market needs. They often started as small entities and have grown over time. The stories of these companies reflect their commitment to sustainability and responsibility. (Table 2)

Table 2: Description of organizations and the story behind them

Org.	Description	Story
1	communication agency specializing in sustainable development.	Founded when sustainability communication was being discussed more in the boards of large companies. The company combines expertise in communication with an interest in sustainable development
2	company focused on sustainability and responsibility consulting	The company is small and helps businesses understand and develop their sustainability themes. Particularl focus on carbon-neutral circular economy
3	An expert company helping succeed in the transition to sustainable development	The company is about 2.5 years old. It focuses on corporate responsibility and offers its clients desirable sustainability programs
4	A specialist company focused on digital accessibility	The company has been operating for about two years and focuses exclusively on digital accessibility
5	A company focused on reducing food waste	The company is seven years old, and its business idea is to connect restaurants, cafes, and grocery stores with consumers to utilize surplus food
6	A communication and event production agency	The company was formed in 2021 from the merger of two companies. It offers communication, marketing, and event services and has over 30 employees
7	An IT company focused on business consulting and sustainability strategies	The company employs two IT experts and one manager who also consults businesses. The company offers consulting services particularly to financial sector companies.
8	A communication agency focused on sustainable business communication	The company has been operating since 1997, initially focusing on science journalism but later shifting to corporate communication. The company offers communication services such as customer magazines and online communication.

Org.	Description	Story
9	focused on mobility	The company initially focused on traditional mobility models but decided to focus exclusively on sustainable mobility in 2018
10	Communication agency specializing in sustainable development and responsibility	The company is ten years old. It undertakes projects for both the public sector and businesses.
11	A company offering SaaS tools for energy management and sustainability	The company has been in the market for 20 years and provides businesses and public entities with the ability to report and optimize energy consumption as well as document and track sustainability measures

A broad view of sustainability can be observed, covering environmental, social, and economic aspects. Focus is on reducing emissions, improving health and well-being, and promoting economic sustainability. Social responsibility, such as employee well-being, is also highlighted. Sustainability is integrated into their strategies and daily operations, often reflecting the company's core values. Sustainability is evident in the services offered, which help clients improve their sustainability. Many companies provide sustainability consulting, training, and analysis. One company focuses on digital accessibility, differing from others.

The focus areas vary among companies. Material-intensive companies emphasize environmental responsibility, while expert companies focus more on social responsibility, such as employee well-being and equality. One company bases all its operations on social responsibility. In some companies, sustainability is central to their business strategy. For others, it is part of the ownership strategy or guided by values like bold change, honesty, human-centricity, and equality. Consulting firms help clients create and implement their sustainability strategies, seeing it as a business opportunity.

Active interaction with stakeholders is crucial. Some follow responsible procurement principles and emphasize transparent communication about sustainability efforts. Challenges faced include data collection and ensuring transparency. Sustainability and related values like responsibility, equality, and transparency are strongly present in the interviewed organizations. Bold changes towards sustainable solutions, honest communication, and human-centric approaches, such as flexible work arrangements, are emphasized. Sustainability is deeply rooted in the core values and operational culture of the companies.

The interviewed companies use a variety of metrics and tools to assess sustainability, which can be categorized into environmental, social, and governance and economic metrics. The metrics used are presented in Table 3.

Table 3: Types of metrics and tools used

Environmental metrics	**Carbon footprint, Ecological footprint, Material flows, Energy consumption and use of renewable energy, Amount and sorting of waste, Accident frequency.**
Social metrics	Employee well-being. Well-being surveys. Equality and accessibility. Employee-related metrics.
Economic & governance metrics	Business profitability. Responsible procurement. Science Based Targets. UN Global Compact.

Almost all interviewed companies mentioned calculating and/or offsetting their carbon footprint. This is the most common and established environmental metric. A few also mentioned calculating their ecological footprint, which is a developing metric that considers the impact of activities on biodiversity. Companies focused on process industries emphasized the importance of measuring material flows, which relates to efficient resource use and the circular economy. Many monitored their energy consumption and aimed to increase the share of renewable energy. Reducing waste and efficient waste sorting were often mentioned as concrete, measurable actions. Accident frequency was also mentioned as a metric, although it is primarily a safety metric. It was included as a sustainability metric because it measures social responsibility. Companies emphasized measuring and monitoring employee well-being using various methods, such as regular well-being surveys and employee-related metrics like turnover, training time, and sick leave. One company also used equality and accessibility as metrics, considering their promotion important for social responsibility. A weekly administered survey was also used to assess burnout.

The most common metrics are monitoring carbon footprint and energy consumption. Many companies also measure employee well-being and social responsibility. Companies see the need for simple and affordable metrics that consider different starting points and focus areas. Furthermore, current metrics are perceived as

fragmented and not used purposefully. New metrics could help companies assess sustainability more comprehensively. In interviews, companies expressed a desire for metrics that are easy to use and reliable. Interviewed organizations recognize the need for new, unified sustainability metrics, as current metrics are fragmented and often lack purposeful use. By developing clear and reliable metrics, companies could assess sustainability more comprehensively and consistently. To effectively support sustainability efforts, these metrics should be both user-friendly and reliable.

Companies have also implemented various development projects, such as carbon footprint calculations, creating responsibility programs, and promoting the circular economy, with the goal of long-term sustainability improvement. Interviewees are constantly seeking new innovative ways to make their operations more sustainable. Challenges in developing sustainability are data quality and accuracy, lack of infrastructure, people's habits, and lack of customer expertise. These challenges are solved through collaboration and continuous development. Challenges can vary depending on the industry and size of the company, but the common denominator is the need for continuous improvement and adaptation. Data comparability was also seen as a challenge. Additionally, consulting companies found it challenging to measure the impact of their operations on the sustainability of clients. On the social side, the lack of absolute metrics was seen as a challenge. Measuring social impacts can also be difficult because many aspects are subjective experiences. The complexity and heaviness of metrics were also seen as partly difficult, especially for small companies. Customers may have different views on sustainability, which complicates the use of unified metrics. This is particularly emphasized when customer expectations and priorities vary. Additionally, in many customer projects, data collection and management are insufficient, making it difficult to measure sustainability. Solving these challenges requires clear communication and functional information systems.

When asked about concrete development actions and recommendations for other companies, emphasis was on practical measures and clear goals to promote sustainability, such as improving office energy efficiency, supporting employee well-being, and increasing transparency. Targeted and practical actions help achieve sustainability goals and create long-lasting positive impacts. Conducting a current state analysis is also recommended as one of the actions, preferably facilitated by an external party, to understand which factors most affect sustainability. Interviewees also recommend involving the entire staff in promoting sustainability and ensuring management commitment.

6. Discussion

Although sustainability is generally understood as a broad concept by the interviewed companies, its focus areas and manifestations vary between companies, which is in line with the key challenges of sustainability of a lack of a unified definition, and the variety of synonyms used in the literature as noted by Proctor et al, 2015. The focus areas vary due to the company's industry, size, and strategy. The concrete form of the strategy also varies. In some companies, sustainability is at the core of the business and the entire strategy is built around it. In others, it is part of the ownership strategy or guided by values. All interviewed companies emphasize the importance of stakeholders and open communication. Responsible action is seen as interaction with stakeholders. Common to all interviewed companies is the importance of concrete actions, measurable results, stakeholder collaboration, and open communication in line with the findings of Waddock & Rache (2012), that a responsible business treats its stakeholders well in daily interactions. The importance of both strategizing and then monitoring sustainability knowledge is particularly underscored. Measurement challenges and the need for new metrics are also common themes. (Parris & Kates, 2003) Many seek simple metrics, especially the SME sector, as well as metrics for measuring the impact of sustainability actions, improving supply chain transparency, and assessing the efficiency of material-intensive processes. One company's specialization in digital accessibility highlights the diversity of sustainability and how it can manifest in specific areas. (Boström, 2012)

With regards to the sustainability metrics in use, it can be noted that the metrics are divided into those related to the environment, social responsibility, and economic sustainability. Common metrics are monitoring carbon footprint, energy consumption, employee well-being surveys, and ensuring responsible procurement. There is a need for development, particularly in the consistency, usability, and comparability of metrics, as current metrics are perceived as fragmented and difficult to apply. Additionally, measuring social impacts is considered challenging because sustainability-related aspects are based on subjective experiences. Observed metrics are in line with the "three pillars" model of sustainability into economic, social, and environmental metrics (Dyllick & Hockerts, 2002).

7. Conclusion

This research aimed to establish how how expert companies in Finland define and measure sustainability, and to identify the metrics and tools used. Through thematic interviews with eleven leaders of expert companies, the research shows that sustainability is broadly understood, however, its operationalization varies. A finding is the use of diverse sustainability metrics, particularly metrics related to carbon footprint, energy consumption, and employee well-being. This study highlights the need for unified, simple user-friendly sustainability metrics – specifically tailored for the need of expert organizations. The research also supports the importance of sustainable leadership, which integrates ethical decision-making, stakeholder engagement, and resilience. Companies embedding sustainability into their core values and daily operations demonstrate a proactive approach to societal and environmental challenges.

Despite its contributions, the study has limitations. The sample size is small and focused on Finnish expert companies, which may limit the generalizability of the findings. Additionally, the qualitative nature of the research means that results are context-specific and interpretive. Practically, the findings offer guidance for companies seeking to improve their sustainability practices, emphasizing the need for clear metrics, transparent communication, and inclusive leadership. Theoretically, the study contributes to the literature by applying a multidisciplinary framework that combines sustainability science, leadership theory, and corporate responsibility.

AI Declaration: Copilot was used to analyze the transcribed data. The analysis was then double checked against the original transcribed data and further analyzed and categorized by the researchers. Copilot was also used to check the list of reference to the cited references to ensure all cited references were included in the list of references and all list of reference items were also cited.

Ethics declaration: This study did not require ethical clearance.

References

Acuti, D., Pizzetti, M. & Dolnicar, S. (2022). When sustainability backfires: A review on the unintended negative side-effects of product and service sustainability on consumer behavior. Psychology & Marketing, 39, 1933–1945. https://doi.org/10.1002/mar.21709

Beckerman, W. (1994). 'Sustainable development': is it a useful concept? Environmental Values, 3(3), 191-209.

Bendell, J. & Little, R. (2024, November). Seeking sustainability leadership. In Pretoria Leadership Conference , 13-26. Routledge. https://insight.cumbria.ac.uk/id/eprint/2167/1/Bendell_SeekingSustainability.pdf

Boström, M. (2012). A missing pillar? Challenges in theorizing and practicing social sustainability: introduction to the special issue. *Sustainability: Science, practice and policy*, *8*(1), 3-14.

Brusila-Meltovaara, K. & Thomson Greenan, C. (2021) Leagile? Leangile?. LAB Focus, Lahti. https://blogit.lab.fi/labfocus/en/leagile-leangile/

Dedeurwaerdere, T. & Edward Elgar Publishing. (2014) *Sustainability science for strong sustainability*. Cheltenham: Edward Elgar Pub. Ltd.

Dyllick, T. & Hockerts, K. (2002). Beyond the business case for corporate sustainability. Business strategy and the environment, 11(2), 130-141. https://onlinelibrary.wiley.com/doi/pdf/10.1002/bse.323

Dyllick, T. & Muff, K. (2016.) Clarifying the Meaning of Sustainable Business: Introducing a Typology from Business-as-Usual to True Business Sustainability. Organization & environment, 29(2), 156-174.

Garcia-Torres S., Albareda L., Rey-Garcia M. & Seuring S. (2019). Traceability for sustainability –literature review and conceptual framework. Supply Chain Management, Vol 24, Issue 1. 85-106. DOI: 10.1108/SCM-04-2018-0152.

Gereffi, G. (1994), "The organization of buyer-driven global commodity chains: How U.S. retailers shape overseas production networks", in Gereffi, G., and Korzeniewicz, M. (Ed.), Commodity Chains and Global Capitalism, Praeger, Westport, CT, 95–122.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. Field methods, 18(1), 59-82.

Handfield, R. B. (1999). Introduction to supply chain management, Prentice-Hall, Upper Saddle River, New Jersey.

Heikurinen, P. 2014. Kestävyyden käsitteen ulottuvuudet. Tieteessä tapahtuu (32) 4, 10–16. https://journal.fi/tt/article/view/46149.

ilvo, T., & Rubanovitsch, M. (2023). Kestävä myynti & johtaminen. Nordic Way Group.

Hollway, W., & Jefferson, T. (2000). Doing qualitative research differently : free association, narrative and theinterview method. SAGE.

Lambert, D. M. and Cooper, M. C. (2000), "Issues in supply chain management, Industrial Marketing Management, Vol. 29 No. 1, 65–83.

LUT-yliopisto. (n.d.). Kestävä liiketoiminta Suomessa käy globaalia vastuuttomuutta vastaan. https://www.lut.fi/fi/artikkelit/kestava-liiketoiminta-suomessa-kay-globaalia-vastuuttomuutta-vastaan.

Malinen, V. (2023). Dilemma johtajuus ekososiaalisen sosiaalityön kontekstissa kuntasektorilla. http://urn.fi/URN:NBN:fi:jyu-202301251458

Melo, L. da S., Fernandes, R. M., Nunes, D. R. de L., Oliveira, R. M. e S. de, Silva, J. M. N. da, Avila, L. V., & Martins, V. W. B. (2024). Industry 4.0 and Sustainability: Empirical Validation of Constructs of Industry Technology and Sustainable Development. Platforms, 2(4), 150–164. https://doi-org.ezproxy.cc.lut.fi/10.3390/platforms2040010.

Metcalf, L. & Benn, S. (2013). Leadership for sustainability: an evolution of leadership ability, Journal of Business Ethics, February 2013, Volume 112, Issue 3, 369-384. http://link.springer.com/article/10.1007/s10551-012-1278-6.

Ministry of Environment (n.d.). Mitä on kestävä kehitys? https://ym.fi/mita-on-kestava-kehitys.

Mio, C., Costantini, & Panfilo, S. (2022). Performance measurement tools for sustainable business: A systematic literature review on the sustainability balanced scorecard use. Corporate social responsibility and environmental management, 29(2), 367-384.

Moore, J. E., Mascarenhas, A., Bain, J. & Straus, S. E. (2017). Developing a comprehensive definition of sustainability. Implementation Science : IS, 12(1), 110–110.

Neumayer, E. (2003). Weak versus strong sustainability: exploring the limits of two opposing paradigms. Edward Elgar Publishing: Northampton, MA.

Parris, T. M., & Kates, R. W. (2003). Characterizing and measuring sustainable development. *Annual Review of environment and resources*, *28*(1), 559-586.

Pernaa, J. (2023). Opinnäytetyön ja pro gradun pikaopas: Hyödyllinen tukimateriaali ohjaajille. LUMAT-B: International Journal on Math, Science and Technology Education, 8(1).

Proctor, E., Luke, D., Calhoun, A., McMillen, C., Brownson, R. & McCrary, S. (2015), Sustainability of evidence-based healthcare: research agenda, methodological advances, and infrastructure support. Implement Sci. 2015;10:88.

Sánchez, J. L. F., Sotorrío, L. L., & Díez, E. B. (2011). The relationship between corporate governance and corporate social behavior: A structural equation model analysis. Corporate Social Responsibility and Environmental Management, 18(2), 91–101. https://doi.org/10.1002/ csr.244.

Silverman, D. (2013). Doing qualitative research (Fourth edition.). Sage.

United Nations. (2015). Transforming our world: The 2030 agenda forsustainable development. https://sdgs.un.org/sites/default/files/publications/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf

Zurich Insurance. (n.d.). Here's how climate change will impact businesses everywhere – and what can be done. Retrieved from https://www.zurich.com/sustainability/planet/adapting-to-climate-change

Waddock, S. A. & Rasche, A. (2012). Building the responsible enterprise : where vision and values add value (1st ed.). Stanford Business Books, an imprint of Stanford University Press. https://doi.org/10.1515/9780804783873

Wessberg, N., Hyytinen, K., Nieminen, M. & Grönroos, E. (2022). Kestävän kehityksen strategian tuki ja vaikuttavuuden systeeminen kokonaistarkastelu**.** Työ- ja elinkeinoministeriön julkaisuja 2022:44. https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/164185/TEM_2022_44.pdf?sequence=1.