



## **SUSTAINABLE EVALUATION OF PROFITABILITY IN MANUFACTURING**

Lappeenranta-Lahti University of Technology LUT

Industrial Engineering and Management Bachelor's Thesis

2025

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Examiner: Postdoctoral Researcher Sini-Kaisu Kinnunen

## ABSTRACT

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### **Sustainable evaluation of profitability in manufacturing**

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As sustainability becomes an increasingly integral aspect of corporate strategy, there is a growing need to align environmental initiatives with financial performance metrics. This thesis explores how sustainability can be integrated into profitability evaluation in the manufacturing industry. Traditional financial metrics primarily emphasize short-term financial performance and don't consider environmental costs or social impacts, which are increasingly relevant in a sustainability-focused business environment.

The thesis examines sustainable profitability metrics including Green Sales, Sustainable Return on Investment (sROI), and Sustainable Value Added (SVA). These frameworks aim to broaden the assessment of profitability by incorporating environmental and social dimensions alongside financial performance. The thesis has been conducted as a narrative literature review and includes a case study analysis that examines how these metrics are applied in practice.

The findings show that sustainable profitability metrics complement traditional financial tools by capturing aspects of long-term value creation not reflected in conventional measures. While these metrics provide more comprehensive evaluations by including economic, social, and environmental impacts, they also present limitations related to data availability, methodological complexity, and standardization. The thesis concludes that these metrics are applicable in real business environments and support the integration of sustainability into financial decision-making.

## TIIVISTELMÄ

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### **Kestävä kannattavuuden arviointi valmistavassa teollisuudessa**

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Kestävyys on yhä keskeisempi osa yritysstrategiaa, mikä lisää tarvetta sovittaa yhteen ympäristötoimet ja taloudellisen suorituskyvyn tunnusluvut. Tässä kandidaatintyössä tarkastellaan, miten kestävyys voidaan integroida kannattavuuden arviointiin valmistavassa teollisuudessa. Perinteiset taloudelliset tunnusluvut painottavat lyhyen aikavälin taloudellista tuloksellisuutta, mutta eivät huomioi ympäristö- tai sosiaalisia vaikutuksia, jotka ovat yhä merkityksellisempiä yrityksille nykypäivän toimintaympäristössä.

Työssä tarkastellaan seuraavia kestävän kannattavuuden tunnuslukuja: Green Sales, Sustainable Return on Investment (sROI) ja Sustainable Value Added (SVA). Näiden tunnuslukujen tarkoituksena on laajentaa kannattavuuden arviointia ottamalla taloudellisten näkökulmien rinnalle mukaan myös ympäristö- ja sosiaaliset ulottuvuudet. Työ on tehty narratiivisena kirjallisuuskatsauksena ja siihen sisältyy tapaustutkimusanalyysi, jossa tutkitaan, miten näitä tunnuslukuja sovelletaan käytännössä.

Tulokset osoittavat, että kestävän kannattavuuden tunnusluvut täydentävät perinteisiä taloudellisia työkaluja tarjoamalla näkökulmia pitkän aikavälin arvonluontiin, joita tavanomaiset tunnusluvut eivät tavoita. Vaikka nämä tunnusluvut mahdollistavat kattavamman arvioinnin ottamalla huomioon taloudelliset, sosiaaliset ja ympäristövaikutukset, niihin liittyy myös rajoitteita, kuten datan saatavuus, menetelmien monimutkaisuus ja standardoinnin puute. Työ osoittaa, että nämä tunnusluvut soveltuvat käytettäväksi todellisessa liiketoimintaympäristössä ja tukevat kestävyuden integroimista taloudelliseen päätöksentekoon.

## Abbreviations

CSRD	Corporate Sustainability Reporting Directive
EBIT	Earnings Before Interest and Taxes
EIA	Environmental Impact Added
ESG	Environmental, Social and Governance
EU	European Union
EVA	Economic Value Added
GRI	Global Reporting Directive
NOPAT	Net Operating Profit After Tax
ROI	Return On Investment
SIA	Social Impact Added
SVA	Sustainable Value Added
sROI	Sustainable Return On Investment
WACC	Weighted Average Cost of Capital

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# 1 Introduction

In recent years, companies have had to continuously adapt their strategies toward more sustainable practices. Growing awareness of environmental issues has placed significant pressure on businesses to align their operations with eco-friendly policies and sustainable development goals. This transformation is driven by various stakeholders, including regulatory bodies, governments, and consumers.

At the regulatory level, the European Union (EU) has introduced new legislation requiring companies to disclose climate-related actions in their annual reports, ensuring greater transparency and accountability in corporate sustainability efforts. Similarly, national governments worldwide are implementing stricter environmental policies, such as carbon taxes and emissions limits, further shaping corporate decision-making. (Hummel & Jobst, 2024)

Consumers, in turn, are increasingly demanding eco-conscious products, actively choosing brands that prioritize sustainability, ethical sourcing, and environmental responsibility. (Lee, 2011) As a result, companies must balance profitability with sustainability, ensuring that their financial performance remains strong while meeting the expectations of both regulatory bodies and environmentally conscious customers.

When all these factors are considered, it is evident that maintaining environmental goals while striving for profitability is not always cost-effective. Investments in green technologies, carbon-neutral supply chains, and sustainable materials often require high upfront costs and may not yield immediate financial returns. This raises an essential question for businesses: How can profitability and sustainability coexist without compromising long-term success? (Cerciello et al., 2023)

Profitability remains the most fundamental financial metric for any business, as it determines whether a company is generating a surplus or operating at a loss. However, most traditional profitability metrics focus solely on revenue and operational efficiency while failing to incorporate environmental costs or sustainability efforts. This gap in financial measurement highlights the need to evaluate how businesses can integrate sustainability considerations into profitability metrics to gain a more comprehensive view of long-term value creation.

## 1.1 Objectives and Research Questions

The objective of this thesis is to provide insight into the evaluation of sustainable profitability. It explores how profitability assessments have evolved in response to environmental demands and examines sustainable profitability metrics. By analyzing their application in real business environments, the thesis highlights how these metrics can be utilized.

Because of the current relevance of the thesis subject, it will delve deeper into previous research and include new references. It also includes an overview of both traditional profitability tools and sustainable profitability tools and how those are being utilized. The thesis will include two case studies in the manufacturing sector: Fiskars Group and Metso. These cases provide a real-world example and tie both theory and practice. The thesis will answer the research questions below as comprehensively as possible based on both academic and scientific literature and other relevant sources, for example news.

Research Questions:

- What are the traditional profitability assessment methods, and what limitations do they have from a sustainability perspective?
- What sustainability-oriented profitability metrics have emerged, and how do they complement traditional methods?

These research questions guide the thesis in exploring the intersection of profitability and sustainability in the manufacturing sector. By examining both traditional and emerging profitability metrics, the study aims to bridge the gap between financial performance and environmental responsibility. Through a combination of literature review and case studies, the thesis provides a comprehensive understanding of how sustainability considerations are integrated into profitability assessments and offers insights into their practical applications for businesses.

## 1.2 Methods and Limitations

In order to explore the sustainable evaluation of profitability in manufacturing companies, a variety of methodological approaches are used. This thesis consists of narrative literature review and a case study analysis. A literature review combines research on the topic and

gives an overview of the subject matter (Vilkka, 2023). According to Vilkka (2023), a narrative literature review provides a comprehensive and interpretive overview of existing research on a specific topic. It synthesizes key themes, identifies gaps, and offers critical insights without following a strict methodological protocol. A narrative literature review was chosen due to the current nature of the subject, combining established concepts with new perspectives. This approach allows for the flexible integration of academic and practical sources, enabling critical analysis and contextual understanding. It supports the thesis objective of combining theoretical insights with real-world applications through case studies, as well as adding current discussions and findings in the field.

The different sources are related to the field and topic and mostly include theoretical literature, empirical studies and other relevant academic and non-academic literature. To provide even more up-to-date information and a view of the business environment, two case studies are applied. The case studies analyze two companies in the manufacturing sector and their methods of evaluating sustainable profitability. The empirical data is collected from the annual reports, which are also included in the references. The metrics are calculated with the equations presented in the thesis.

As seen in Table 1, the academic sources used in the thesis are found from Google Scholar, LUT Primo and Scopus. Online sources used are from the company's official website or news. The sources are mainly in English, but a few are in Finnish. The key search words are also specified in Table 1.

Table 1: Information sources and key search words

<b>Search engine</b>	<b>Database</b>	<b>Key search words</b>
Google Scholar LUT Primo	Scopus	sustainable profitability profitability manufacturing ESG EU regulations green sales sustainable value added sustainable return on investment

The limitations for the research are that it is only limited to manufacturing companies. In terms of evaluating sustainability work combined with business goals, the manufacturing sector is good because of the clarity and simplicity of the business models and known emissions and shortcomings in sustainability.

### 1.3 Structure

This thesis is structured in a way that ensures a logical progression of ideas, guiding the reader from foundational concepts to practical applications and final conclusions (Figure 1). Following this introduction, Chapter 2 explores traditional profitability metrics that have been widely used in the manufacturing industry. It examines their key features, benefits, and limitations, particularly in the context of sustainability challenges. This chapter lays the groundwork for understanding how businesses have historically measured profitability and why new approaches may be necessary.

Chapter 3 shifts the focus to sustainable profitability metrics, discussing the alternative methods that have been developed in response to increasing environmental and social concerns. This chapter introduces key sustainability-oriented assessment tools and frameworks that companies have started to implement, evaluating their effectiveness in complementing traditional financial metrics while also addressing the shortcomings.

Chapter 4 bridges the gap between theory and practice by applying the concepts from Chapters 2 and 3 to real-world case studies. Using Fiskars Group and Metso as examples, this chapter demonstrates how these companies approach profitability assessment while integrating sustainability considerations. It presents the findings from the case studies, offering insights into how businesses are adapting their financial evaluation strategies in response to sustainability demands. The chapter concludes with summarizing the key findings and insights from the thesis so far.

Finally, Chapter 5 concludes the thesis by answering the research questions, discussing their implications for businesses and policymakers, and suggesting potential areas for further research. This chapter ties together the whole thesis from previous chapters, providing a clear and comprehensive reflection on how sustainability and profitability can coexist in modern manufacturing practices.

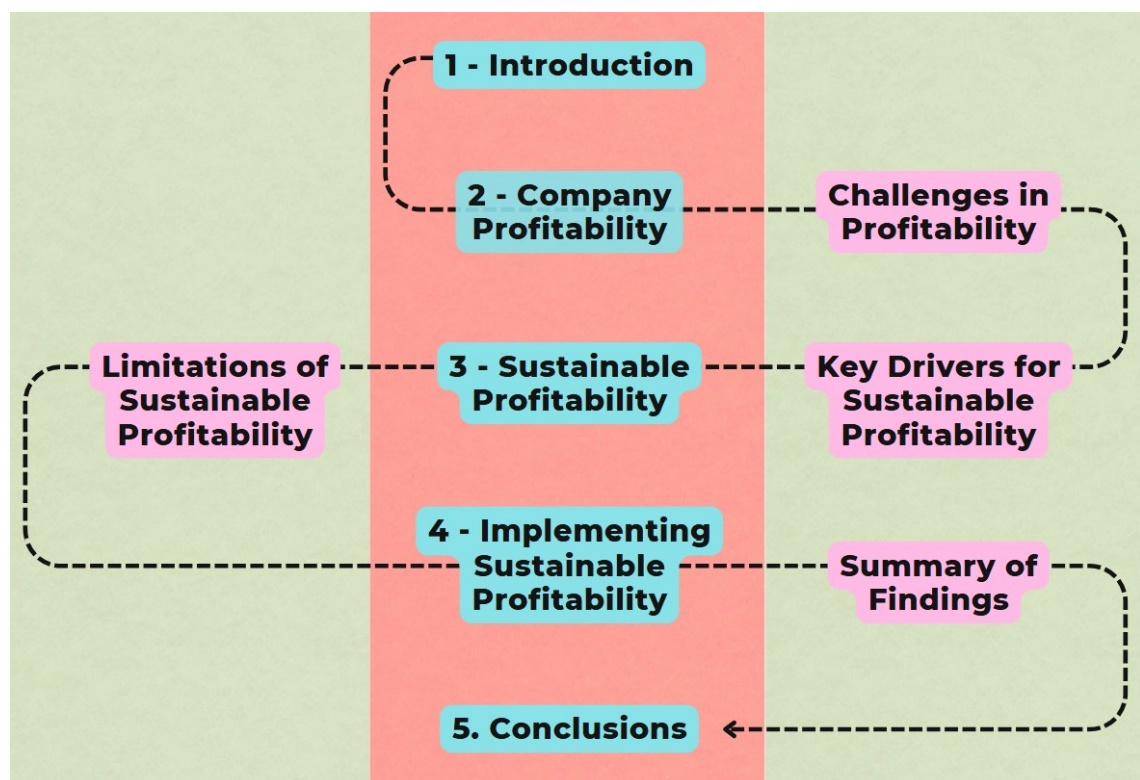


Figure 1: The structure of the thesis

## 2 Company Profitability

Profitability is a fundamental measure of a company's financial performance, assessing how efficiently it generates profit from revenue to cover all expenses, pay dividends, and reduce loans. At its core, profitability represents the remaining financial surplus after all costs have been deducted from revenue, determining whether a company operates at a profit or incurs a loss. (Neilimo & Uusi-Rauva, 2005, p. 19)

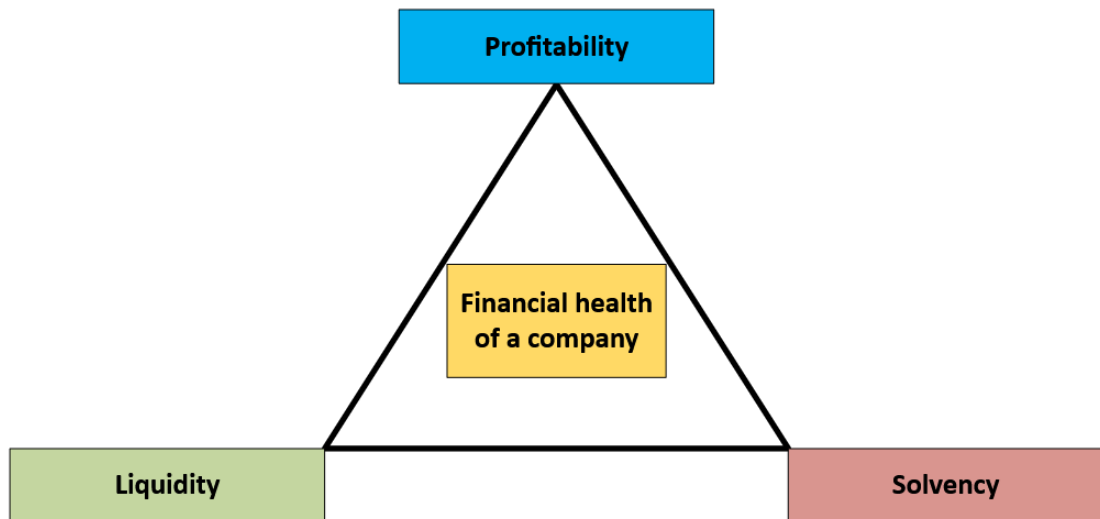


Figure 2: The financial health of a company

Profitability is widely regarded as the most critical financial metric for businesses, as it serves as the foundation for value creation and long-term sustainability. The success of a company is often evaluated through three key financial indicators: profitability, liquidity, and solvency. If all three are in good condition, the company is generally considered financially healthy (Figure 2). (Vilkkumaa, 2010, p. 44)

For company management, profitability plays a crucial role in decision-making. It can be assessed over short-term or long-term periods, where the short term typically refers to one year or less, while the long term is 2–5 years. The selection of appropriate profitability metrics depends on the timeframe and the specific financial aspects being analyzed. (Neilimo & Uusi-Rauva, 2005, p. 274)

Different stakeholders perceive profitability from varying perspectives. Owners often prioritize higher dividend payouts, whereas management tends to focus on reinvesting profits to support business growth and expansion. These differing objectives influence how profitability is measured and interpreted within a company (Neilimo & Uusi-Rauva, 2005, p. 274)

This section of the thesis examines three key profitability metrics: Operating Profit Margin, Return on Investment (ROI), and Economic Value Added (EVA).

- **Operating Profit Margin** measures the proportion of revenue that remains as profit after covering operating expenses, providing insight into the company's operational efficiency.
- **ROI** evaluates how effectively a company utilizes investments to generate returns, making it a key metric for investors and financial analysts.
- **EVA** is a shareholder value metric that assesses a company's profitability while considering the expected return required by owners and investors.

Together, these metrics offer a view of a company's profitability from both internal management and external stakeholder perspectives.

## 2.1 Operating Profit Margin

Operating Profit Margin is a key profitability metric that evaluates a company's operational efficiency by measuring the proportion of revenue remaining after covering operating expenses, excluding interests and taxes. It reflects how effectively a company manages its costs and generates profit from its core operations. (Jayathilaka, 2020)

As shown in Equation 1, Operating Profit Margin is calculated by dividing EBIT (Earnings Before Interest and Taxes) by total revenue (Salmi, 2020, p. 265). Since EBIT includes depreciation, amortization, and impairments, this metric provides a clearer view of a company's underlying profitability before financial and tax-related expenses are considered. Operating Profit Margin is expressed as a percentage, making it easy to compare across different companies and industries.

This ratio offers valuable insight into how efficiently a company converts sales into operating profit (Koski, 2017, p. 81). A higher Operating Profit Margin indicates better control

over operating costs relative to revenue, which is essential for financial stability and long-term competitiveness.

However, it is important to recognize that this metric does not account for non-operating expenses, such as financing costs and taxes, which can significantly impact a company's overall profitability. Therefore, while Operating Profit Margin is useful for assessing operational performance, it should be analyzed alongside other financial metrics to gain a comprehensive understanding of a company's financial health. (Jayathilaka, 2020)

$$\textit{Operating Profit Margin} = \frac{\textit{EBIT}}{\textit{Turnover}} * 100$$

Equation 1.

Operating Profit Margin is particularly valuable for company management as it highlights the profitability of a business after covering all operating expenses, excluding interest and taxes (Neilimo & Uusi-Rauva, 2005, pp. 277–278). By focusing on operational efficiency, this metric helps managers identify areas where costs can be optimized and profits maximized.

One key area where Operating Profit Margin plays a crucial role is supply chain management. Companies can use it to analyze cost structures, negotiate better prices for raw materials and supplies, and improve procurement strategies. A declining margin may signal the need to reassess supplier agreements, reduce waste, or streamline logistics to maintain profitability. (Rahiminezhad Galankashi & Mokhatab Rafiei, 2022)

Abraham et al (2024) addresses in their article that, in addition to cost control, Operating Profit Margin is highly relevant to pricing strategies. It provides insights into how much of the company's revenue is available to cover all expenses, including depreciations. By understanding this relationship, businesses can make informed pricing decisions to ensure that their products or services remain competitive while maintaining healthy margins.

Beyond internal management, external stakeholders, such as investors and creditors, also closely monitor Operating Profit Margin. Since it is a short-term profitability indicator, it

helps potential investors assess a company's financial health and operational efficiency. A strong and stable Operating Profit Margin can signal a well-managed company that can generate consistent earnings, making it a more attractive investment opportunity. (Neilimo & Uusi-Rauva, 2005, pp. 274–277)

## 2.2 Return on Investment (ROI)

Return on Investment (ROI) is one of the most widely used profitability metrics globally. It assesses how effectively a company generates profit relative to the capital invested in the business. ROI is particularly valuable for measuring long-term profitability, as it provides insights into how well a company utilizes its assets and investments to create financial returns. (Neilimo & Uusi-Rauva, 2005, p. 278).

As a relative profitability metric, ROI is expressed as a percentage, allowing for easy comparison between companies, industries, or different time periods. There are multiple ways to calculate ROI, depending on the financial focus of the analysis. One common approach is shown in Equation 2, where ROI is derived by multiplying the Operating Profit Margin by the capital turnover ratio (Bhimani, 2012, p. 424).

$$ROI\% = 100 * \frac{\textit{Operating Profit}}{\textit{Turnover}} * \frac{\textit{Turnover}}{\textit{Total assets}}$$

Equation 2.

This formula highlights how ROI is influenced by both profitability from sales (return on sales) and how efficiently a company utilizes its total assets to generate revenue (capital turnover). It's broken down in Figure 3. By breaking ROI into these two components, businesses can identify whether profitability improvements should focus on increasing sales margins or optimizing asset utilization. (Neilimo & Uusi-Rauva, 2005, p. 278)

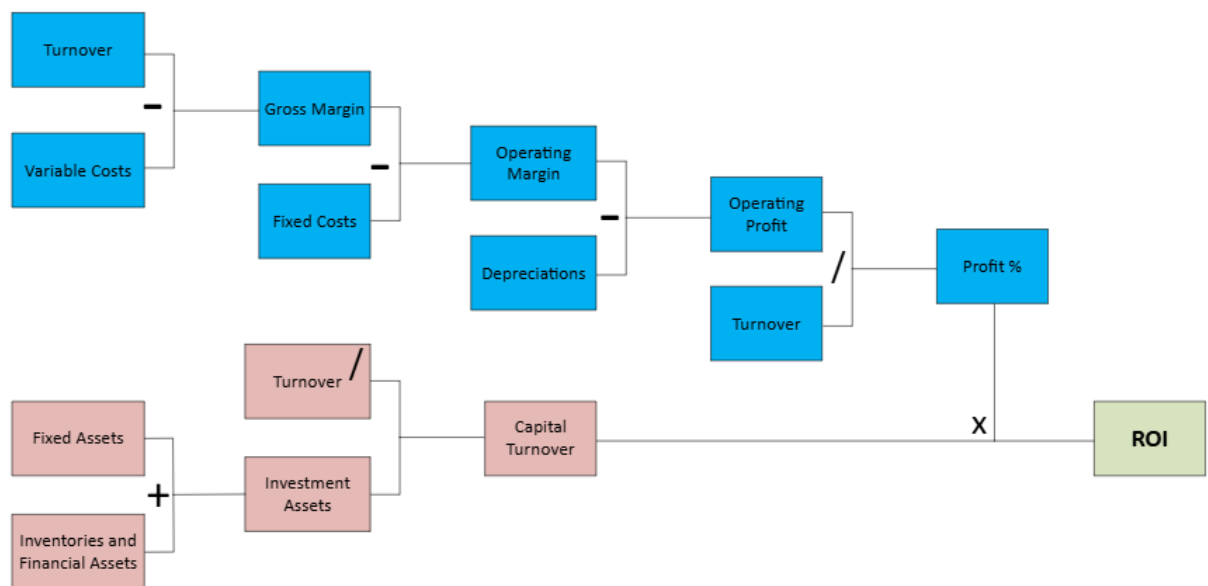


Figure 3: ROI presented with different components (modified from (Neilimo & Uusi-Rauva, 2005))

Another widely used method for calculating ROI incorporates financing expenses, offering a more comprehensive measure of profitability that accounts for a company's capital structure. This alternative formula is presented in Equation 3 (Salmi, 2020, p. 265)

$$ROI\% = 100 * \frac{\text{Operating Profit} + \text{Financing Expenses}}{\text{Total Equity and Liabilities} + \text{Non Interest Bearing Liabilities}}$$

Equation 3.

This approach provides a more accurate reflection of return by considering the impact of interest-bearing liabilities on a company's financial performance. It is particularly relevant for businesses with significant debt financing, where interest expenses play a crucial role in profitability and capital allocation decisions (Boyte-White, 2023). An example of a company using this, is Huhtamäki. (Huhtamäki, 2024)

In addition to evaluating overall company performance, ROI is also widely used to assess the profitability of individual investments or projects. This application of ROI is especially relevant in capital budgeting and strategic decision-making, where companies must decide

whether an investment will yield sufficient returns relative to its cost. The simplicity and clarity of the metric make it a practical tool for comparing alternative investment options or justifying project approval. (Kousky et al., 2019). The ROI for a specific investment is typically calculated using the formula presented in Equation 4.

$$ROI = 100 * \frac{\text{Net Profit from Investment}}{\text{Investment Cost}}$$

Equation 4.

In this equation, net profit refers to the total gains from the investment after subtracting all associated costs, and investment cost represents the initial capital outlay required to implement the project. This form of ROI offers a view of how efficiently an investment converts capital into profit. It is particularly helpful for project managers, business analysts, and decision-makers seeking to prioritize investments based on financial returns. (Kousky et al., 2019)

While ROI is an essential tool for evaluating investment efficiency, it also has limitations. ROI can sometimes be manipulated by accounting choices, such as asset valuation methods or cost allocation strategies, which may distort its accuracy in performance assessment (Tayles & Drury, 2024, p. 536).

ROI is widely used by investors, executives, and financial analysts to assess profitability and guide decision-making. Its adaptability across industries and business models makes it one of the most influential performance indicators in corporate finance.

### 2.3 Economic Value Added (EVA)

Economic Value Added (EVA) is a widely used financial metric that determines whether a company is creating value beyond its cost of capital. Unlike the most traditional profitability measures that focus solely on net profit, EVA incorporates the cost of capital, making it a more refined tool for assessing financial performance. It highlights the benefit that owners and investors receive in relation to the risks they take by investing in a company. Since

equity investors expect higher returns due to the inherent risk of their investments, EVA ensures that a company is generating sufficient returns to justify those risks (Koski, 2017, pp. 76–78).

According to Neilimo & Kotonen (1997), EVA is particularly useful in evaluating whether a company's net profit is sufficient when considering the risks associated with capital investment. It measures the excess return that a company generates after covering its Weighted Average Cost of Capital (WACC). As seen in Equation 5, EVA is determined by subtracting the cost of capital from the Net Operating Profit After Tax (NOPAT), which represents the company's earnings from operations, adjusted for taxes. (Neilimo & Kotonen, 1997). The formula is expressed as follows.

$$EVA = NOPAT - WACC * Invested Capital$$

Equation 5.

where:

- NOPAT (Net Operating Profit After Tax) represents operating earnings after taxes but before financing costs.
- WACC (Weighted Average Cost of Capital) is the average cost of financing through both debt and equity.
- Invested Capital refers to the total amount of capital (equity and interest-bearing debt) used in business operations.

A positive EVA indicates that a company is generating returns above its capital costs, meaning it is creating value for shareholders. Conversely, a negative EVA suggests that the company is failing to generate sufficient returns to cover its financing costs, ultimately destroying shareholder value. (Neilimo & Kotonen, 1997). By incorporating both operating performance and capital efficiency, EVA provides a more accurate measure of true economic profit compared to traditional accounting profits.

EVA is widely used in corporate management accounting, investment decision-making, and performance evaluation. Companies use EVA to assess the effectiveness of investment projects, acquisitions, and capital expenditures, ensuring that new initiatives contribute

positively to long-term profitability. Many firms also incorporate EVA into executive compensation structures, aligning management incentives with shareholder value creation (Puolamäki, 2007, p. 234). Additionally, EVA serves as a key tool in capital allocation, helping businesses prioritize investments in projects or divisions that generate the highest returns relative to their capital costs. (Bhimani, 2012, pp. 425–428)

To illustrate EVA in practice, consider a company with a NOPAT of €5 million, an invested capital of €50 million, and a WACC of 8%. The EVA calculation would be as follows (Equation 6):

$$EVA = 5,000,000 - (0.08 \times 50,000,000) = 5,000,000 - 4,000,000 = \mathbf{\text{€}1,000,000}$$

Equation 6.

Since EVA is positive (€1 million), the company is generating returns above its cost of capital, meaning it is creating value for shareholders. If EVA had been negative, it would indicate that the company is not earning sufficient returns, potentially signaling the need for strategic improvements in cost management, investment efficiency, or operational performance.

While EVA offers several advantages, it is not without limitations. One of the key challenges in using EVA is the accurate estimation of WACC, as it requires reliable market data and assumptions about the company's financial risk (Tayles & Drury, 2024, p. 538). Additionally, EVA can be complex to calculate compared to simpler profitability metrics. It also tends to be less useful for short-term financial evaluation, as capital investments may take time to generate meaningful returns (Tayles & Drury, 2024, p. 538).

## 2.4 Challenges of Profitability Metrics in a Sustainable Context

As presented in this section, Operating Profit Margin, ROI, and EVA are widely used to assess financial performance. However, these metrics focus on short-term financial gains and calculating the financial performance of the company. Environmental and social impacts are becoming increasingly essential in the modern business landscape (Lee, 2011). As

sustainability becomes a key factor in corporate strategy, these limitations might raise concerns about their effectiveness in guiding long-term decision-making.

One major limitation of traditional profitability metrics is their *short-term financial focus*. Traditional profitability metrics are designed to measure immediate profitability and shareholder returns, often overlooking long-term sustainability investments. For example, a manufacturing company investing in renewable energy or sustainable supply chains may face higher upfront costs, which can temporarily reduce profitability according to traditional measures (Cerciello et al., 2023). However, these investments can lead to long-term cost savings and regulatory advantages, which traditional metrics fail to recognize.

Another significant issue is that traditional financial metrics do not account for *externalities*, the indirect costs and benefits of business operations on society and the environment. For example, a company that pollutes less or reduces waste creates positive externalities, such as improved public health and reduced environmental damage. (Lascols, 2021). Consequently, companies that focus solely on traditional profitability metrics may be less likely to invest in sustainability initiatives that benefit society but do not immediately improve the bottom line. (Adesemowo et al., 2024; Lascols, 2021)

Additionally, traditional metrics struggle to capture *intangible benefits* associated with sustainability. Brand reputation, customer loyalty, and employee satisfaction are valuable assets for a company, but they are difficult to quantify in financial terms. A company with strong ESG (Environmental, Social, and Governance) practices may experience higher customer trust and investor interest, leading to long-term profitability. However, traditional metrics fail to reflect these advantages, making them incomplete for evaluating the full impact of sustainability efforts. (Agbakwuru et al., 2024)

Also, the lack of standardized sustainability reporting in financial analysis creates *inconsistencies* when comparing profitability across businesses. While frameworks such as the Global Reporting Initiative (GRI) and Sustainability Accounting Standards Board (SASB) provide guidelines for sustainability reporting, they are not yet fully integrated into all financial performance measurements. As a result, companies that prioritize sustainability may appear less profitable in the short term, even though they are generating long-term value that is not captured by traditional metrics (Cerciello et al., 2023).

Table 2 summarizes Operating Profit Margin, ROI and EVA and outlines their main uses and limitations from a sustainability perspective. This comparison provides a foundation for the following chapter, where more sustainability-aligned metrics are explored.

Table 2: Traditional Profitability Metrics

<b>Metric</b>	<b>Type of Metric</b>	<b>Main Use</b>	<b>Strengths</b>	<b>Limitations</b>
Operating Profit Margin	Relative (percentage of revenue)	Measure operational efficiency and cost control	Easy to calculate; useful for benchmarking; reflects core business efficiency	Doesn't separate environmental or social costs; may discourage long-term investments due to short-term margin pressure.
ROI	Relative (return per € invested or percentage)	Evaluate investment efficiency and capital utilization	Widely used; helps compare investments; adaptable across contexts	Discourages investments with high initial costs but long-term sustainable benefits.
EVA	Absolute (net economic value created)	Assess shareholder value creation after cost of capital	Considers cost of capital; aligns with value creation; used in capital allocation	Focuses only on shareholder returns, doesn't reflect environmental or societal value creation

### 3 Sustainable Profitability

Sustainability defines the interaction between people and nature and refers to the ability to meet present needs without compromising the ability of future generations to meet their own. It encompasses environmental, economic, and social dimensions, aiming for a balanced approach that ensures long-term ecological health, economic stability, and social well-being (Halonen et al., 2024, pp. 19–23). At its core, sustainability promotes responsible resource management, reducing waste and pollution, conserving biodiversity, and fostering equitable social and economic systems (Raworth, 2018, pp. 48–57). Beyond environmental conservation, it involves developing resilient communities and economies that can thrive without depleting or harming natural systems. Whether in business, policy, or daily life, sustainability emphasizes long-term thinking, efficiency, and ethical responsibility, ensuring a harmonious relationship between people, the planet, and economic prosperity. (Raworth, 2018, pp. 49–52)

Sustainable profitability (Figure 4) represents the balance between financial performance and corporate responsibility, ensuring that businesses generate profits while considering environmental, social, and governance (ESG) factors. Unlike traditional profitability, which focuses on maximizing short-term financial returns, sustainable profitability integrates long-term value creation by addressing climate impact, resource efficiency, ethical labor practices, and corporate transparency (Mustafa et al., 2022). By embedding sustainability into core business strategies, companies can mitigate risks associated with environmental degradation, supply chain disruptions, and shifting market dynamics. This approach not only enhances a company's reputation but also strengthens financial stability by fostering operational efficiencies and maintaining consumer and investor confidence (Tayles & Drury, 2024, pp. 700–703).

A growing number of companies are recognizing that sustainability is not just a matter of compliance or reputation but a key driver of future revenue. According to a recent Morgan Stanley survey, over 80% of firms anticipate that their sustainability strategies will lead to higher profitability, increased revenue, and improved cash generation within the next five years. This reflects a shift in corporate thinking, where sustainability is increasingly viewed

as a value creation opportunity rather than a cost burden, signaling its integration into core business models and long-term growth strategies. (Segal, 2024)

As businesses face increasing expectations to align profitability with sustainability, they must adapt their strategies to remain competitive in an evolving global market. Companies that embrace sustainable practices can unlock new growth opportunities in sectors such as renewable energy, circular economy, and low-carbon production (Tayles & Drury, 2024, pp. 703–705). However, achieving sustainable profitability requires more than isolated initiative; it demands a fundamental shift in business models, decision-making frameworks, and performance evaluation (Tayles & Drury, 2024, pp. 711–716).



Figure 4: Sustainable Profitability

The following sections explore the key drivers for sustainable profitability. Additionally, this thesis will examine a few metrics used to measure sustainable profitability, assessing their strengths and limitations in capturing the value of sustainability-driven business models. By analyzing these factors, this study aims to provide a comprehensive understanding of how businesses can achieve financial success while contributing to a more sustainable global economy.

### 3.1 Key Drivers for Sustainable Profitability

Sustainable profitability is influenced by a combination of regulatory requirements, consumer expectations, investor priorities, and resource efficiency strategies. As businesses increasingly face pressure to integrate sustainability into their financial models, these factors push them to reconsider traditional profitability measures. Sustainable profitability emphasizes long-term value creation, balancing economic, environmental, and social factors. Companies that adapt to these evolving expectations are better positioned to maintain competitive advantages, secure investments, and build long-term resilience. (Taticchi & Corvaglia-Charey, 2025, p. 16)

#### **Regulations: EU Green Deal and CSRD Reporting**

Government regulations play a major role in shaping corporate sustainability efforts, particularly within the European Union, where policymakers have introduced ambitious measures to ensure businesses contribute to environmental and social progress. The EU Green Deal aims to make Europe the first climate-neutral continent by 2050, setting strict guidelines for carbon emissions, energy efficiency, and circular economy practices. These regulations require companies to adjust their operations, invest in cleaner technologies, and adopt sustainable supply chain practices to meet compliance standards. (European Commission, 2025c)

A key regulatory development in corporate sustainability reporting is the Corporate Sustainability Reporting Directive (CSRD), which mandates that companies disclose sustainability-related risks and impacts in their annual reports (European Commission, 2025a). Unlike the earlier Non-Financial Reporting Directive (NFRD), the CSRD significantly expands the number of companies required to report on ESG factors and introduces stricter disclosure requirements (European Union, 2014). Businesses that fail to meet these standards risk financial penalties, reputational damage, and reduce investor confidence. This shift reflects a broader global trend in corporate governance, where transparency in sustainability performance is becoming as crucial as financial reporting. (Russell, 2024)

Companies that proactively align with regulatory frameworks can gain competitive advantages, avoiding compliance risks while attracting investors and customers who prioritize corporate responsibility. Siemens and Unilever, for example, have strategically integrated sustainability into their financial and operational models, ensuring compliance with evolving

European regulations while maintaining market leadership in their respective industries. (Siemens, 2025; Unilever, 2024)

### **Consumer Demand for Ethical and Sustainable Products**

Changing consumer preferences have become a powerful driver of sustainable profitability, as customers increasingly seek products and services that align with ethical production and environmental responsibility. Studies show that a significant portion of modern consumers, particularly younger generations such as Millennials and Gen Z, are willing to pay premium prices for sustainably produced goods. (Lee, 2011) This shift is particularly evident in manufacturing industries such as food, textiles, and technology, where concerns over carbon footprints, fair labor practices, and ethical sourcing are influencing purchasing decisions.

To remain competitive, businesses must demonstrate supply chain transparency, responsible material sourcing, and reduced carbon footprints. Companies that fail to meet these expectations risk losing market share to competitors that emphasize sustainability in their branding and operations. By incorporating sustainable materials, reducing packaging waste, and adopting energy-efficient production methods, companies can increase customer loyalty, differentiate themselves from competitors, and improve brand perception.

A strong example of a company leveraging this trend is Patagonia, an outdoor apparel brand that has successfully built its reputation around sustainability. By using recycled materials, fair trade labor practices, and product repair programs, Patagonia has not only cultivated brand loyalty but has also driven long-term profitability. This demonstrates that sustainability is not just a moral imperative but a viable business strategy that enhances consumer engagement and financial returns. (Michigan Journal of Economics, 2025; Patagonia, 2025)

### **Investor Pressure: ESG Criteria and Sustainable Finance**

The role of investors and financial institutions in driving sustainable profitability has grown significantly in recent years. Investors are no longer solely focused on short-term financial gains but are increasingly assessing companies based on their ESG performance. As sustainable investing gains momentum, businesses that integrate sustainability into their operations are more likely to attract investment capital and secure favorable financing conditions. (Tayles & Drury, 2024, pp. 699–701)

The rise of ESG investing has led to the development of new financial instruments, such as green bonds, sustainability-linked loans, and ESG-focused investment funds (Vass, 2024). These financial products incentivize businesses to adopt sustainable practices by linking capital access to environmental and social performance indicators. Companies with strong ESG ratings benefit from lower financing costs, improved investor confidence, and increased stock market valuations (Fiorillo et al., 2025).

Investment firms and institutional investors now frequently evaluate companies using ESG ratings and may exclude firms with high carbon footprints, poor labor conditions, or weak corporate governance from their portfolios (Lopez-de-Silanes et al., 2024). The asset management giant BlackRock, for example, has integrated sustainability into its investment strategy, prioritizing companies that demonstrate measurable progress in reducing environmental impact and improving governance practices (Schwartzkopff, 2024). This shift signals that sustainability is no longer just an ethical concern but a critical financial consideration influencing access to capital and shareholder value.

### **Resource Efficiency and Cost Savings: Circular Economy and Waste Reduction**

Beyond regulatory compliance and investor expectations, sustainable profitability is also driven by operational efficiencies that reduce waste and optimize resource use. Companies that adopt circular economy principles—which emphasize recycling, reusing materials, and minimizing waste—can significantly cut costs while improving sustainability performance. By shifting from a linear production model (produce, use, dispose) to a circular approach (reduce, reuse, recycle), businesses can create more sustainable operations while improving financial performance. (Tayles & Drury, 2024, pp. 698–701)

Investing in energy-efficient technologies, waste reduction strategies, and water conservation measures helps companies lower operational expenses while mitigating long-term risks associated with rising energy prices, raw material shortages, and environmental regulations. By proactively reducing resource consumption, companies not only improve profitability but also strengthen their resilience against potential supply chain disruptions and regulatory changes. (Tayles & Drury, 2024, p. 705)

One of the most prominent examples of a company implementing circular economy principles is IKEA. The global furniture retailer has launched initiatives such as recycling programs, second-hand furniture sales, and sustainable material sourcing to reduce its

environmental footprint. By designing products with longer life cycles and minimal waste, IKEA has managed to enhance sustainability while reducing long-term production costs, showcasing how circular economy models can contribute to both financial and environmental success. (Tayles & Drury, 2024, p. 704)

### 3.2 Green Sales

In these next three chapters, three sustainable profitability metrics, including Green Sales, are introduced.

Green Sales refers to a metric for evaluating the portion of a company's revenue generated from products or services that contribute to environmental sustainability. This includes goods and services that promote energy efficiency, carbon reduction, circular economy practices, and sustainable resource use. Unlike traditional revenue, which focus solely on financial performance, Green Sales emphasize the alignment of profitability with environmental responsibility. Companies with significant Green Sales demonstrate a commitment to sustainable business models, ensuring that their financial growth does not come at the expense of ecological degradation (Klausmann et al., 2024). Green Sales can be shown as a figure or as a percentage. It can be calculated as demonstrated in Equation 7.

$$\text{Green Sales \%} = \frac{\text{Ecofriendly sales}}{\text{Turnover}} * 100$$

Equation 7.

Measuring Green Sales is a good tool for businesses looking to evaluate their financial success in sustainable markets. One common approach is to calculate the percentage of total revenue derived from environmentally friendly products. For instance, a company producing solar panels, electric vehicles, or biodegradable packaging can classify the revenue from these sales as Green Sales. Various classification systems, such as the FTSE Russell Green Revenues Classification System (GRCS) and the EU Taxonomy for Sustainable Finance, provide standardized methods to assess a firm's green revenue share (European

Commission, 2025b; FTSE Russell, 2024). These frameworks help companies and investors differentiate between businesses that genuinely contribute to sustainability and those that engage in greenwashing, a practice where firms exaggerate their environmental efforts without substantial action.

The Finnish manufacturing company Cargotec established a new product group, Ecological Solutions, in 2017. Its mission is to help customers achieve profitable growth while addressing environmental challenges. Cargotec aims to increase its revenue while simultaneously reducing emissions. By the end of 2023, Ecological Solutions accounted for 33% of Cargotec's total revenue. As part of its strategic objectives, the company aims to grow revenue from Ecological Solutions at twice the rate of its other product groups. (Cargotec, 2024). Cargotec's Ecological Solutions is one of the examples of Green Sales.

As a profitability metric, Green Sales offer insights into the long-term financial viability of sustainability-driven business models. According to Kruse et al. (2020), an empirical analysis of over 16,000 publicly listed firms globally found that a higher share of green revenues is significantly associated with increased operating profit margins. Specifically, firms that generated more revenue from environmentally friendly goods and services saw improvements in EBIT, EBITDA, and Return on Sales. This supports the view that transitioning toward sustainable products not only aligns with environmental goals but also contributes positively to financial performance.

Companies with a high proportion of Green Sales may experience greater investor confidence, as financial institutions and stakeholders increasingly prioritize ESG factors (Lel, 2025). Additionally, Green Sales can indicate a firm's ability to adapt to regulatory changes and stricter environmental policies worldwide. Firms with sustainable sales are better positioned to attract sustainability-linked investments, access green financing, and secure government incentives. (Lel, 2025)

Beyond financial markets, Green Sales also serve as a strategic business indicator. Companies can use this metric to track their progress in sustainability transitions, identify emerging consumer trends, and refine product development strategies. With increasing consumer demand for eco-friendly products, businesses that successfully grow their Green Sales are likely to gain a competitive edge and enhance brand loyalty. (Klausmann et al., 2024; Lee, 2011)

### 3.3 Sustainable Return on Investment (sROI)

In terms of evaluating corporate initiatives and investments, traditional ROI might not be sufficient to capture the full value. In response to this limitation, Sustainable Return on Investment (sROI) has emerged as a more comprehensive metric that accounts not only for financial performance but also for environmental and social outcomes. (Tonello, 2025). sROI supports companies in evaluating the profitability of investments that contribute to long-term sustainability, offering a broader lens through which to assess corporate value creation. (Bohmholdt, 2014)

At its core, sROI extends the principles of conventional ROI by integrating monetized social and environmental impacts, often referred to as externalities. These impacts—such as reduced carbon emissions, improved air quality, enhanced biodiversity, or increased community well-being—can be either positive or negative and may not be immediately visible in financial statements (Tonello, 2025). By incorporating these factors, sROI helps businesses align their investment decisions with the principles of the triple bottom line: people, planet, and profit. The basic formula for calculating sROI can be seen in Equation 8.

$$sROI = \frac{\textit{Net Present Value of Economic, Social and Environmental Benefits}}{\textit{Initial Investment Cost}}$$

Equation 8.

This ratio expresses the total sustainable value generated per unit of investment. A result greater than 1.0 indicates a positive sustainable return, meaning that the investment delivers more value than it costs when all three dimensions (economic, environmental, and social) are considered. (Rostone Operations, 2025). For example, in Equation 9, if the initial investment cost is €446 255 and the combined economic, social, and environmental impacts amount to a net benefit of approximately €485 000, the resulting sROI would be 1.09:

$$sROI = \frac{€485\,000}{€446\,255} \approx 1.09$$

Equation 9.

This result indicated that for every euro invested, the project generated 1,09€ in combined sustainable value.

For businesses, adopting sROI as a profitability metric provides several strategic advantages. It enables decision-makers to understand the full impact of their investments and prioritize projects that deliver the greatest long-term value—not only to shareholders but also to society and the environment. sROI is particularly relevant in industries such as construction, manufacturing, energy, and waste management, where sustainable innovations often carry both upfront costs and significant downstream benefits. Furthermore, as ESG criteria become more prominent in investment evaluation and corporate reporting, sROI offers a transparent and standardized framework for demonstrating sustainable performance. (PMI, 2024; Sopact, 2025)

### 3.4 Sustainable Value Added (SVA)

Sustainable Value Added (SVA) is a performance metric designed to capture not only economic profitability but also a company's social and environmental impact. SVA extends the concept of EVA by incorporating the principles of the triple bottom line, offering a more holistic view of how businesses create or destroy value for society. (Kassem et al., 2016; Straková, 2012)

SVA evaluates a company's overall performance by aggregating economic, social, and environmental impacts into a unified framework. Rather than focusing solely on shareholder returns, SVA assesses how well a company aligns its activities with broader sustainability objectives, such as reducing carbon emissions, contributing to community development, or minimizing negative ecological footprints. According to Figge & Hahn (2004), SVA is especially relevant in sectors such as manufacturing, where environmental and social externalities are significant and materially affect long-term performance. The general formula for SVA is presented in Equation 10:

$$SVA = \omega_{economic} * EVA + \omega_{social} * SIA + \omega_{environmental} * EIA$$

Equation 10.

Where:

- EVA represents Economic Value Added
- SIA (Social Impact Added) reflects the monetized value of social contributions (e.g., job creation, community engagement, worker well-being)
- EIA (Environmental Impact Added) captures the monetized effect of environmental practices (e.g., carbon emissions, waste generation, water use)
- $\omega$  terms represent the weights assigned to each impact category, which may vary based on organizational priorities or stakeholder expectations

Unlike EVA, which relies exclusively on financial data, SVA introduces the challenge—and the opportunity—of monetizing non-financial outcomes. This includes using valuation techniques such as avoided cost (e.g., healthcare savings from reduced emissions), contingent valuation (e.g., willingness to pay for clean air), or benefits transfer (applying values from external studies). Although these methods introduce some subjectivity and estimation, they enable firms to quantify the broader value or harm created by their operations. (Kassem et al., 2016)

To illustrate, a manufacturing company with strong financial returns (high EVA), positive social contributions (such as workforce training programs), but significant environmental harm (e.g., emissions or waste) may still produce a net positive SVA, but the environmental penalty would reduce the total value created. Conversely, firms that simultaneously achieve profitability, reduce ecological harm, and create social benefit can demonstrate significantly higher SVA, positioning themselves as leaders in sustainable value creation.

Considering a hypothetical manufacturing firm that has already calculated its EVA at €8 000 000 for the fiscal year. In addition to this:

- Its Social Impact Added (SIA), which includes workforce development programs, accident reduction, and local job creation, is monetized at €3 000 000.
- Its Environmental Impact Added (EIA) is negative, estimated at –€4 500 000, due to carbon emissions, industrial waste, and high energy consumption.

Assuming the company assigns equal weight (0.33) to each component (economic, social, environmental), the SVA is calculated in Equation 11:

$$\begin{aligned}
 SVA &= 0,33 * 8\,000\,000 + 0,33 * 3\,000\,000 + 0,33 * (-4\,500\,000) \\
 &= 2\,640\,000 + 990\,000 - 1\,485\,000 = \mathbf{\text{€}2\,145\,000}
 \end{aligned}$$

Equation 11.

This result shows that while the company creates significant financial and social value, its environmental impact reduces its total sustainable contribution. Still, the positive SVA indicates net sustainable value creation, demonstrating the firm's potential to improve overall performance by reducing ecological harm, without sacrificing profitability or social engagement.

SVA is particularly relevant in strategic planning, investment decision-making, and sustainability reporting. It allows firms to identify which areas contribute most to overall value and where improvements are needed. For stakeholders and investors, SVA provides a transparent and integrative measure of corporate performance that goes beyond traditional accounting metrics. (Jankalová & Kurotová, 2019)

While the application of SVA requires access to robust data and the ability to quantify non-financial outcomes, it offers a future-oriented approach to performance evaluation. For companies, it provides a powerful tool to balance growth with sustainability, positioning them to meet both market expectations and global sustainability goals. (Jankalová & Kurotová, 2019; Kassem et al., 2016)

### 3.5 Limitations of the Sustainable Profitability Metrics

While sustainable profitability metrics are increasingly important in evaluating corporate performance, each carries its own limitations that restrict practical application and comparability. Green Sales, sROI, and SVA offer valuable insights into how companies align profitability with sustainability. However, these tools are often challenged by methodological complexity, data limitations, and limited integration into business strategy. (Rostone Operations, 2025)

Green Sales, which measure the share of revenue derived from environmentally sustainable products and services, provides a useful indication of a firm's transition toward more

sustainable operations. However, it should not be viewed alone. Green Sales figures alone do not reflect profit margins, operational efficiency, or cost structures, all of which are essential for ensuring long-term profitability. In many cases, green products involve higher initial production costs due to innovation, research, and compliance requirements, which can pressure short-term margins (Xie et al., 2022). Additionally, not all green revenues are equally sustainable; what qualifies as "green" may vary across industries and is sometimes vulnerable to greenwashing. Without standardized classification and deeper profitability analysis, Green Sales can offer a partial and sometimes misleading view of performance.

sROI aims to measure the broader value of an investment by accounting for its economic, environmental, and social impacts. Despite its comprehensive scope, sROI faces several practical and conceptual challenges. A major limitation lies in the complexity and resource intensity of its calculation. Companies must conduct detailed life-cycle assessments, monetize externalities, and use valuation methods that demand significant expertise, time, and data. These requirements often exceed the capacity of small and medium-sized enterprises.

In addition, monetizing non-market impacts such as reduced pollution, community well-being, or biodiversity introduces considerable subjectivity. These valuations often rely on estimation methods like contingent valuation or benefits transfer, which can vary significantly based on assumptions, local context, and data quality. This lack of standardization can diminish the credibility and comparability of sROI results. Moreover, sROI emphasizes long-term, often intangible benefits, which may not align with short-term financial reporting cycles. As a result, companies operating under quarterly performance pressures may hesitate to prioritize sROI-based decision-making. In firms where sustainability is not yet integrated into strategy and culture, there may also be resistance or lack of awareness, further limiting adoption.

SVA faces many of the same obstacles. Like sROI, SVA requires companies to collect, process, and interpret multidimensional data, often using complex, non-standardized monetization techniques (Straková, 2012). Assigning financial value to non-financial outcomes such as employee safety or emissions reduction is methodologically demanding and context dependent.

Moreover, the absence of regulatory endorsement or reporting mandates for SVA means that companies have little external incentive to adopt it. SVA remains largely an academically

driven concept and is not widely recognized by mainstream sustainability frameworks like the Global Reporting Initiative (GRI) or the Corporate Sustainability Reporting Directive (CSRD). In addition, most executive compensation structures are still tied to traditional financial metrics like ROI, EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization), or net profit, leaving minimal motivation to implement multidimensional performance tools like SVA. For many companies, especially those focused on short-term shareholder value, SVA may not be regarded as essential to strategic planning.

Limited familiarity around SVA also contributes to its underutilization. Compared to more established metrics like carbon footprinting or ESG scoring, SVA is relatively unknown among business world and is seldom included in reporting tools or financial education. Without internal advocates or external standardization, it is unlikely to gain widespread traction.

To summarize the key characteristics, applications, and limitations of Green Sales, sROI and SVA, Table 3 provides a comparative overview. It highlights each metric's typical use, underlying perspective, core strengths, and limitations, offering a clearer understanding of how they complement or differ from one another in evaluating sustainability-linked business performance.

Table 3: Sustainable Profitability Metrics

<b>Metric</b>	<b>Type of Metric</b>	<b>Main Use</b>	<b>Strengths</b>	<b>Limitations</b>
Green Sales	Percentage of Revenue	Track sustainable revenue growth	Simple, transparent; good for communication; aligns with ESG reporting	Doesn't show profit margins or efficiency; vulnerable to greenwashing; classification challenges
sROI	Ratio (Return per € Invested)	Evaluate individual investments	Captures full value; supports long-term thinking; widely adaptable	Complex, data-heavy; subjective valuations; less useful for short-term financial decisions
SVA	Absolute Value (Net Sustainable Value)	Assessing overall company performance or individual investment	Holistic and strategic; supports sustainability integration in core planning	Requires high data quality; not standardized; limited business adoption

## 4 Implementing Sustainable Profitability Metrics

Building on the theoretical discussion of profitability and sustainability, this section focuses on how these concepts are applied in practice. Through two case studies, the thesis examines how companies have incorporated sustainability into their business strategies and performance evaluation. The cases of Metso and Fiskars demonstrate how environmental considerations are being integrated into commercial operations and financial reporting, reflecting a broader shift toward aligning profitability with long-term sustainability goals.

### 4.1 Case Metso

Metso, a globally operating Finnish industrial company, is a leading provider of equipment, services, and technologies for the minerals processing and metals refining industries. Headquartered in Espoo, Metso has a long industrial heritage, with roots dating back to the 19th century, and operates in over 50 countries worldwide. The company serves mining, aggregates, and recycling sectors with solutions that enhance productivity, efficiency, and environmental performance. Known for its advanced process technology and engineering expertise, Metso emphasizes safety, innovation, and operational excellence. In recent years, Metso has increasingly integrated sustainability into its business strategy, recognizing the importance of reducing environmental impact while enabling customers to meet their own sustainability goals. By aligning its offerings with the demands of the circular economy and low-carbon transition, Metso positions sustainability not only as a responsibility but also as a key driver of long-term value creation. (Metso, 2025)

In 2021, Metso launched a sustainability-focused business initiative under the name Planet Positive, which has since been rebranded as Metso Plus. The Metso Plus portfolio includes products and services that are better from a sustainability perspective and are designed to help customers meet their environmental targets. (Metso Outotec, 2022). According to Metso's website, these offerings exceed industry benchmarks or Metso's own previous-generation products in areas such as energy and water efficiency, emissions reduction, material use, and recyclability. The qualification for inclusion in the Metso Plus portfolio is based on defined performance thresholds that ensure a meaningful contribution to customers' climate

and environmental goals. In addition to lowering the environmental footprint of customer operations, Metso Plus also takes into account the carbon emissions generated during manufacturing and delivery, as well as opportunities to extend equipment lifespan and enhance the reuse of materials.

To measure the commercial impact of these sustainability efforts, Metso began reporting Metso Plus Sales (formerly Planet Positive Sales) as a share of its total turnover. These include a range of technologies such as energy-efficient crushing and screening equipment, water-saving filtration systems, and wear parts designed to maximize resource efficiency. This tracking reflects Metso's commitment to integrating sustainability directly into its financial and strategic evaluation processes.

By the end of 2024, Metso Plus Sales reached €1,261 million, accounting for 26% of the company's total revenue. This reflects the growing integration of sustainability into Metso's business strategy and value creation model. (Metso, 2025). Metso's tracking of Metso Plus Sales serves as a practical example of how sustainability can be embedded into the financial and strategic evaluation of industrial operations.

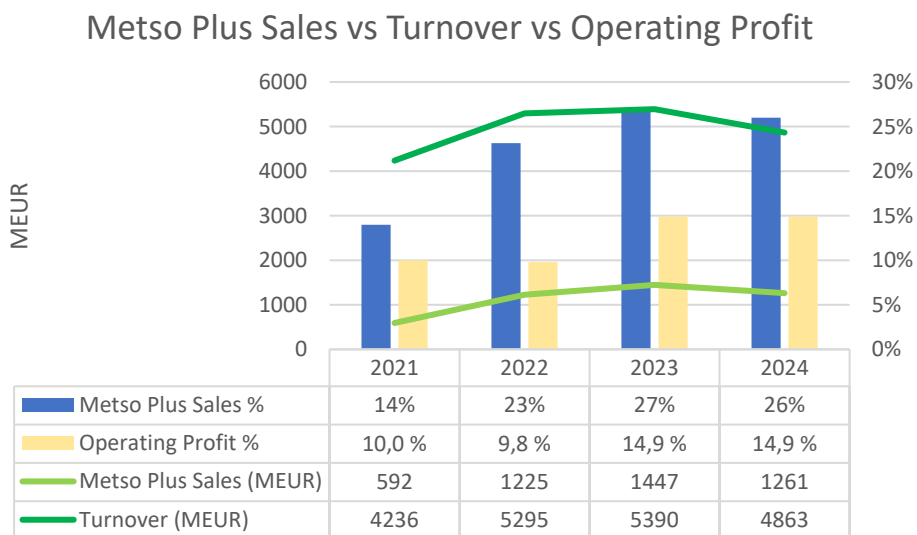


Figure 5: Metso Plus Sales vs Turnover vs Operating Profit

Figure 5 illustrates the development of Metso Plus Sales, total turnover, and Operating Profit Margin for Metso between 2021 and 2024. During this period, Metso's sustainability-oriented sales grew substantially, increasing from €592 million in 2021 to €1,261 million in

2024, more than doubling over four years. As a share of total turnover, Metso Plus Sales rose from 14% in 2021 to a peak of 27% in 2023, before slightly declining to 26% in 2024. This trend reflects the increasing strategic importance of sustainability within Metso's commercial offering. Notably, while total turnover peaked in 2023 at €5,390 million and declined to €4,863 million in 2024, the proportion of Metso Plus Sales remained high. This suggests that sustainability-linked revenue streams have shown relative resilience, even amid broader market fluctuations.

In parallel, Operating Profit Margin also improved over the same period, rising from 10.0% in 2021 to 14.9% in 2023, and remaining stable at that level in 2024. This indicates a potential alignment between sustainability integration and financial performance. The data suggests that Metso's shift toward sustainability has not come at the expense of profitability, but on the contrary, it may have supported it. The simultaneous rise in Metso Plus Sales and Operating Profit Margin implies that environmentally focused innovations can contribute positively not only to long-term value creation but also to near-term financial outcomes. While further analysis would be needed to confirm causation, the trend supports the conclusion that embedding sustainability into core business operations can enhance both resilience and competitive advantage.

One clear reason for the increase in Metso Plus Sales is the company's strategic decision to embed sustainability more deeply into its core business model. Rather than approaching sustainability as an add-on, Metso has defined strict, transparent criteria for its Metso Plus portfolio, which has added both credibility and commercial value to the offering. However, the growth in these sales cannot be explained by internal efforts alone. It also reflects a significant shift in the priorities of Metso's customer base, which includes companies in the mining, aggregates, metals refining, and recycling sectors. These industries are not only capital-intensive but also heavily scrutinized for their environmental impact.

As discussed earlier in this thesis, regulatory demands have intensified in recent years. In parallel, institutional investors and stakeholders have increased their expectations around ESG performance and transparency. Faced with growing pressure to reduce their environmental footprint while maintaining operational efficiency, many of Metso's customers are actively seeking solutions that help them meet their environmental targets without compromising productivity. Metso Plus offerings are well aligned with these needs, which helps explain the sustained growth in sales. In that sense, the increase in Metso Plus Sales

represents a meeting point between supply and demand: Metso's sharpened sustainability positioning has found a receptive audience among customers navigating rising compliance standards and evolving market expectations.

## 4.2 Case Fiskars

Fiskars Group, a Finnish consumer goods company founded in 1649, is one of the oldest continuously operating companies in the Western world. The company is known for its high-quality, durable products and owns a range of globally recognized brands such as Fiskars, Iittala, Royal Copenhagen, Waterford, Wedgwood and its newest addition, Georg Jensen. Fiskars' operations span categories including gardening tools, kitchenware, tableware, and design-driven lifestyle products, with a strong emphasis on functionality, aesthetics, and craftsmanship. In recent years, Fiskars has embedded sustainability into its strategic framework, recognizing the importance of aligning environmental goals with long-term profitability and brand integrity. (Fiskars Group, 2025)

In 2021, Fiskars set a public target to generate 50% of its total turnover from circular economy products and services by 2030 (Fiskars Group, 2022). This "Circular Sales" goal is also directly comparable to the Green Sales metric presented in Section 3.2, which evaluates the share of a company's revenue derived from environmentally sustainable offerings. By 2024, Fiskars had already increased the share of its circular sales to 26%, up from 14% the year before, signaling strong progress toward its target. These circular products are designed with recyclability, renewable or recycled materials, repairability, and longevity in mind, supporting a shift away from the traditional linear model of consumption. Fiskars' approach to the circular economy reflects a clear stance against throwaway culture, aiming to extend product lifespans and minimize environmental impact.

As described on the Fiskars Group website, the company promotes circularity through strategies such as reusing, repairing, recycling, and repurposing, with product design focused on durability, timeless aesthetics, and high-quality craftsmanship. In line with its commitment, Fiskars prioritizes the use of recyclable and renewable materials, reduces virgin plastic use, and avoids combining materials that are difficult to recycle. The company also seeks to

ensure that production waste is either recycled or recovered, aiming to eliminate landfill waste altogether.

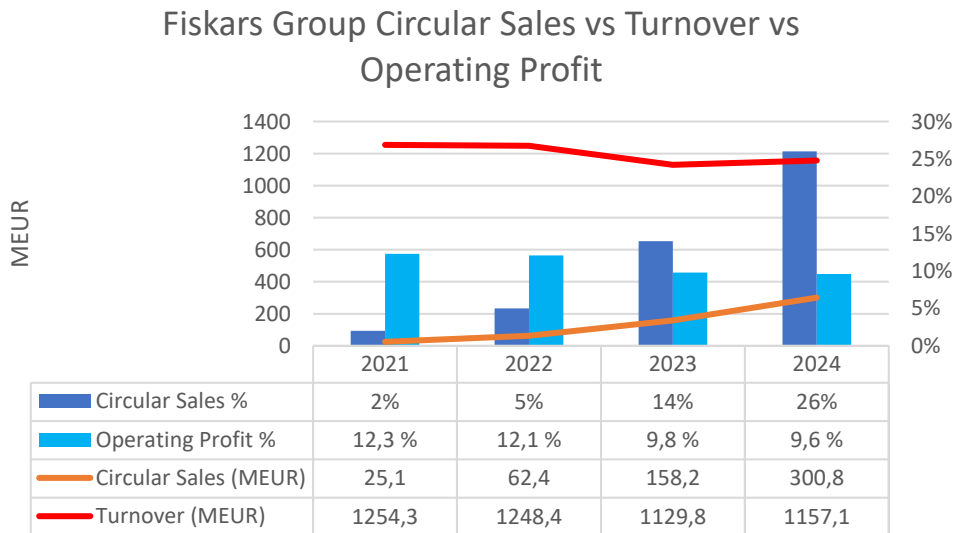


Figure 6: Fiskars Circular Sales vs Turnover vs Operating Profit

As can be seen from Figure 6, Fiskars Group's Circular Sales experienced rapid growth between 2021 and 2024, both in absolute terms and as a share of total turnover. Circular Sales rose from €25.1 million in 2021 to €300.8 million in 2024, more than ten times increase within four years. Their share of total turnover increased accordingly, from just 2% in 2021 to 26% in 2024. This sharp upward trend highlights the company's strong and deliberate push to integrate circular economy principles into its business model. In contrast, Fiskars' total turnover declined moderately during the same period, from €1,254.3 million in 2021 to €1,157.1 million in 2024. Yet despite this overall revenue decline, the continuous rise in Circular Sales signals a transition toward a more sustainable and differentiated revenue structure.

The development of Operating Profit Margin adds further context to this transformation. Fiskars' profitability declined slightly, from 12.3% in 2021 to 9.6% in 2024. While this downward trend in margin may reflect broader market challenges or restructuring costs, it also raises questions about the short-term profitability of sustainability-oriented product lines. However, the scale and speed of Circular Sales growth suggest that the company is

laying the groundwork for long-term value creation through sustainability. The steep rise in sustainable sales, even amid softening overall profit margins, shows a strategic shift that prioritizes future resilience and alignment with environmental expectations over immediate financial gain.

As explored earlier in the thesis, the consumer goods sector is undergoing a notable shift, driven by increasing environmental awareness and changing buyer expectations. Regulations around material use, product lifecycle, and waste reduction are tightening, but perhaps even more influential is the rising demand from consumers for products that are responsibly made, long-lasting, and circular by design. Fiskars, operating in the lifestyle and home goods space, is especially sensitive to these evolving values.

Fiskars' growth in Circular Sales stems not only from internal sustainability efforts but also from its ability to anticipate and align with these changing consumer mindsets. The company's iconic brands, known for their design, quality, and durability, have found a strong fit with customers seeking more meaningful and sustainable consumption. Rather than treating sustainability as a technical or regulatory issue, Fiskars has approached it as a design challenge: creating products that can be reused, repaired, or recycled, and using renewable or recycled materials wherever possible.

Another factor that may help explain the rise in Circular Sales at Fiskars is the company's increased investment in research and development. In 2022, Fiskars allocated €20.8 million to R&D, an increase of approximately 34.2% from 2021. This investment is particularly significant given the brand's reputation for quality. One of the challenges in circular product development is to ensure that materials, especially recycled or renewable ones, can meet the same standards of durability and performance that customers expect. By channeling more resources into product development, material testing, and design innovation, Fiskars is better equipped to overcome these challenges. This likely plays a key role in enabling the company to expand its circular portfolio without compromising the longevity or aesthetic appeal of its products.

Importantly, the transformation for sustainability has been market-driven. Consumers today are looking beyond price and aesthetics; they want transparency about how products are made and what happens at the end of their life. Retail partners and investors are also echoing

these concerns, placing pressure on brands to back up their environmental claims with real action. Fiskars' circular approach isn't just about environmental responsibility, it's also a smart response to shifting market dynamics, helping the company stay relevant and competitive.

### 4.3 Summary of Findings and Key Insights

The analysis demonstrates a clear contrast between traditional and sustainability-oriented profitability metrics. While Operating Profit Margin, ROI, and EVA continue to serve as essential tools in financial evaluation, they are limited in their ability to reflect the full impact of a company's operations in a sustainability-driven context. These metrics focus on internal efficiency and investor return but exclude environmental costs and social value creation, which have become increasingly significant in business decision-making. The introduction of Green Sales, sROI, and SVA in this thesis highlights a more thorough approach to profitability. These metrics directly address the need to incorporate sustainability into financial evaluation, expanding the scope of value creation beyond the immediate bottom line.

The case studies of Metso and Fiskars demonstrate that tracking sustainability-linked revenue is not only feasible but increasingly essential in assessing business performance today. Both companies have placed sustainability at the core of their strategies and developed concrete ways, Metso Plus Sales and Circular Sales, to measure the financial relevance of their environmental initiatives. These metrics reflect not only growing interest in sustainable offerings but also a broader shift in how companies define value creation.

In Metso's case, the increase in Metso Plus Sales, combined with a rising Operating Profit Margin, suggests that sustainability integration can go hand in hand with financial performance, as examined by Kruse et al. (2020). This trend appears closely tied to the evolving expectations of Metso's industrial customer base, which is subject to increasing regulatory demands and ESG scrutiny. The company's ability to align its offerings with these pressures has helped it maintain resilient sustainability-linked revenue, even during periods of fluctuating overall turnover.

Fiskars presents a different but complementary picture from the perspective of a consumer-facing brand. While its Operating Profit Margin declined slightly over the same period,

Circular Sales grew rapidly both in value and as a share of total revenue. This growth reflects changing consumer preferences, especially among environmentally conscious, design-oriented customers—as well as rising stakeholders and investor expectations around circularity. The case illustrates how sustainability can become a source of differentiation and long-term brand value, even if short-term profitability is impacted.

Together, these cases show that while financial outcomes may differ by industry, integrating sustainability into profitability evaluation is both practical and increasingly strategic. This shift is not merely a response to regulatory or reputational pressure, it signals a deeper transformation in how companies approach value, resilience, and long-term competitiveness.

While Green Sales allows for straightforward quantification, sROI and SVA introduces a more complex but wider layer of analysis. Companies have been more inclined to implement Green Sales primarily due to its simplicity, transparency, and alignment with the existing ESG reporting frameworks. The ability for SVA and sROI to monetize environmental and social outcomes gave a deeper understanding of the long-term impact of investments and business models. However, this process also revealed challenges. The subjectivity of valuations, lack of standardized methods, and data requirements make implementation resource intensive.

Despite these challenges, both metrics encourage more comprehensive evaluation of business performance. sROI can serve as a valuable tool for companies to assess the broader impact of their investments. It may also support securing approval or funding from public institutions, such as city or state authorities, by demonstrating environmental and social benefits in addition to economic ones. SVA on the other hand, could be applied across the entire company alongside EVA to assess not only financial performance but also the social and environmental value the company creates.

The evidence from the cases and literature confirms that sustainable profitability metrics are not theoretical constructions, but evolving tools already being tested in industry. They are actively influencing how companies and organizations structure goals, measure outcomes, and communicate progress, making a transition toward financial models that better reflect the realities of a changing world.

## 5 Conclusions

This thesis has explored how profitability in the manufacturing industry can be evaluated through a sustainability lens. The study combined theoretical analysis with real-world case applications to assess how traditional financial metrics compare to emerging sustainability-oriented ones. The goal was to understand how businesses can evolve their performance assessment practices in response to rising environmental and social demands. This thesis had two research questions:

*What are the traditional profitability assessment methods, and what limitations do they have from a sustainability perspective?* The traditional methods covered in this thesis—Operating Profit Margin, Return on Investment (ROI), and Economic Value Added (EVA)—are well-established tools for evaluating financial performance. They offer insight into operational efficiency, investment returns, and value creation from the perspective of investors and internal stakeholders. However, these metrics are limited in their ability to reflect long-term environmental or social impact. They focus narrowly on internal cost and revenue structures, and they exclude externalities such as emissions, resource depletion, or social outcomes. As a result, they do not fully support decision-making in contexts where sustainability is a strategic priority. This limitation becomes especially relevant when companies are under regulatory or reputational pressure to demonstrate responsible practices beyond immediate financial results.

*What sustainability-oriented profitability metrics have emerged, and how do they complement traditional methods?* The thesis introduced three sustainable profitability metrics: Green Sales, Sustainable Return on Investment (sROI), and Sustainable Value Added (SVA). These metrics represent a shift in how profitability is understood and measured. Green Sales provide a direct, quantifiable view of how much of a company's revenue comes from environmentally sustainable offerings. sROI goes further by assigning financial value to environmental and social outcomes, enabling companies to assess the broader returns of their investments. SVA aggregates economic, social, and environmental performance into a single figure, highlighting the net sustainable value generated. These tools complement traditional metrics by addressing the areas they overlook. They expand the concept of

profitability to include long-term impacts and stakeholder value, making them particularly useful for companies seeking to integrate sustainability into their core business strategies.

The case studies demonstrated that these sustainability metrics are not only conceptual but increasingly applied in practice. Metso Plus Sales and Fiskars' Circular Sales provided measurable data on the integration of sustainability into commercial performance. Both companies used these metrics to track progress and align product development with long-term environmental goals.

The evolution of profitability metrics is both a response to external pressures and a proactive step toward more resilient and responsible business models. While challenges such as standardization, data collection, and implementation complexity remain, the benefits of adopting these tools are clear. They enable companies to measure what matters in a world where value is no longer defined solely by financial gain.

Future research could investigate how these metrics affect internal decision-making, resource allocation, and stakeholder engagement. It could also examine their influence on investor behavior or integration into reporting standards. Importantly, future studies could focus on the practical application of these metrics in specific companies and sectors to better understand their usability and real-world impact. Another direction would be to refine the existing metrics or even develop entirely new sustainable profitability indicators that respond to current business needs and environmental challenges with greater precision and usability.

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