

Adapting Integral Development Theory: Integrating financial and sustainability metrics for actionable business management

Prof. ANNA MARIA FELLEGGARA - Dott. MARCELLO COSA

ABSTRACT: (ADAPTING INTEGRAL DEVELOPMENT THEORY: INTEGRATING FINANCIAL AND SUSTAINABILITY METRICS FOR ACTIONABLE BUSINESS MANAGEMENT). *“The global debate on sustainability underscores the urgency for contemporary businesses to integrate Environmental, Social, and Governance (ESG) considerations into their operational models. This discussion is driven by escalating ecological concerns and societal demands for ethical business conduct, prompting a reevaluation of traditional business practices. However, a significant gap remains in how businesses can practically apply theoretical sustainability frameworks to meet these challenges. This study addresses this issue by uniquely adapting Integral Development Theory (IDT) with an innovative integration of both sustainability and financial metrics, a novel approach that significantly enhances its applicability and relevance for modern business management. We utilized the theory adaptation methodology, which involved extensive and critical analysis of literature and case studies to ensure the theoretical robustness and practical applicability of our adaptation. Through this mixed-method research approach, we combined existing and new sustainability models and metrics into IDT’s framework, making it a pragmatic tool for comprehensive sustainable development. Our key findings show that companies implementing these integrated metrics enhance corporate responsibility and sustainability performance. Specifically, businesses that align their operations with the adapted IDT framework can better address sustainability challenges and improve long-term profitability and stakeholder trust. Our research also explores the role of leadership in facilitating the transition toward integrated sustainability practices, highlighting that transformative leadership is crucial for driving change and achieving significant impact. The unique contribution of our study lies in operationalizing IDT with actionable sustainability indicators. This provides businesses a robust framework to align their strategic goals with societal and environmental responsibilities. By filling a theoretical gap and offering a methodologically sound approach to integrating sustainability and financial metrics, our study provides a practical model that can serve as a reference for future adaptations of other theoretical frameworks in sustainability studies. Overall, our research enriches the theoretical understanding of IDT and offers valuable insights for academics, practitioners, and policymakers engaged in sustainable business practices. The findings emphasize the importance of aligning economic activities with broader societal values and highlight the practical benefits of integrating sustainability into core business strategies.”*

KEYWORDS: *sustainability, performance, ESG metrics, corporate social responsibility, theory adaptation*
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1. Introduction

Sustainability is crucial in contemporary business, shaping strategies and practices worldwide. As environmental concerns escalate and societal demands for ethical business conduct grow, companies should reevaluate their operational models. Adopting sustainable practices ensures compliance and provides a strategic advantage, enhancing long-term profitability and stakeholder trust (KUO, LU, and GANBAATAR, 2023). This shift underscores the fundamental role of sustainability in achieving business success in the modern economy.

Today’s businesses operate within a complex landscape where their activities extend significant impacts beyond traditional financial metrics, influencing broader economic, social, and environmental realms. Given this complexity, the “triple bottom line” concept becomes essential, advocating for an integrated assessment that encapsulates social, ecological, and economic performance (ELKINGTON, 1998). This comprehensive approach is vital as businesses generate positive and negative externalities affecting other entities and

the ecosystem. However, there is a growing need to redefine traditional business and economic measurements to reflect these dynamics accurately (FELLEGARA, 2021). By evolving these measurement systems, companies can align more closely with contemporary values and regulatory expectations, ensuring a holistic view of their impact.

Integral Development Theory (IDT), initially articulated by Pope Paul VI in 1967, provides a holistic framework for understanding and addressing contemporary challenges. It posits that balanced growth across economic, social, ethical, and spiritual dimensions is essential for true development, challenging prevailing materialistic paradigms and advocating a comprehensive approach to human welfare and societal advancement. IDT emphasizes the interconnectedness of various aspects of human life, promoting holistic development that encompasses physical, emotional, social, and intellectual growth (DEVANEY, 2015; ROETZEL *et al.*, 2015). The theory supports sustainable development by addressing current needs without compromising the ability of future generations to meet theirs, thereby targeting urgent issues such as climate change and resource depletion (SHAKIR HANNA and CESARETTI, 2020). IDT also incorporates participatory development, engaging local communities in decision-making processes to ensure that initiatives are both relevant and impactful (TAGHVAEE *et al.*, 2023). Ultimately, IDT fosters inclusive and sustainable practices that empower individuals and communities, building long-term resilience and equity (FLEMING, 2015).

This multidimensional perspective is particularly suited to integrating sustainability into business practices (CATTURI, 2021). However, despite its comprehensive scope, applying IDT in business has often been constrained by a lack of actionable metrics that bridge theoretical concepts with practical implementation.

Our study uniquely addresses this critical gap by innovatively adapting IDT to incorporate both sustainability and financial indicators, making it more actionable and relevant for modern business management. This enhancement increases IDT's utility, transforming it into a practical framework that businesses can use to comprehensively measure and advance sustainable development. By integrating multidimensional metrics, we provide firms with the tools needed to align their economic activities with broader societal values (COSA, 2024). Furthermore, this adaptation enables firms to track and advance their sustainability performance effectively, integrating these indicators into their strategic management processes and decision-making frameworks.

This research enriches the theoretical understanding of IDT and contributes to the practical application of integrated reporting and performance evaluation in businesses. By incorporating sustainability and financial indicators, the adapted IDT framework facilitates a deeper analysis of how companies can align their economic activities with broader societal values, a critical aspect in today's regulatory and competitive landscapes.

We employed the theory adaptation methodology (JAAKKOLA, 2020), which expands the application domain of IDT. This research design draws on a combination of deductive and inductive approaches to ensure that the adapted IDT is theoretically robust and practically applicable. It involves an extensive examination of current literature on business sustainability practices and case studies illustrating the successful integration of similar models. Our contribution lies in creating a practical framework for embedding sustainability into core strategic management processes, offering a comprehensive toolkit for enhancing sustainability performance.

Following this introduction, the paper is structured to further elaborate on these themes. Section 2 delves into the theoretical foundations of IDT, while Section 3 discusses the

methodology for its adaptation, emphasizing the integration of sustainability indicators. Section 4 showcases applications of these indicators in business, supported by empirical evidence. Finally, Section 5 synthesizes the findings, discusses implications for theory and practice, and suggests directions for future research. This comprehensive exploration aims to provide valuable insights for academics, practitioners, and policymakers engaged in enhancing sustainable business practices.

2. Integral Development Theory

2.1 *Core principles*

As conceived by Pope Paul VI (1967), IDT posits a holistic approach to human and societal advancement, emphasizing the need for balanced growth across various dimensions of life and society. This comprehensive framework addresses development's economic, social, ethical, and spiritual aspects, proposing a model that transcends the purely materialistic paradigms prevalent in contemporary economic discourse (ISANBOR, 2023).

To properly elucidate the IDT, it is essential to trace back to the roots of business economics when businesses found their natural place in society as socio-economic institutions. Indeed, the concept of an institution is entirely original in business economics, emerging significantly through the contributions of the renowned business scholar Gino Zappa. The author viewed the business as a socio-economic system designed to endure over time and to survive by economically developing the capacity to meet human needs. In summary, business is seen as a tool for satisfying human needs, placing the economy at the service of humanity (ZAPPA, 1956).

Zappa's students embraced and expanded upon his ideas, leading Carlo Masini to articulate that an institution is a community of people striving toward the greater good (MASINI, 1970). In this framework, a business represents the economic dimension of the institution. This view moves beyond the narrow perception of economic activity as merely operations fulfilling individual needs, presenting it as a complex process that cultivates communities, groups, societies, and institutions. From this renewed cultural vantage point, a business operates as the purely economic component of an institution and must integrate with the institution's ethical, social, religious, and political principles.

For a business to survive and endure over time, it must simultaneously pursue strictly economic goals and non-economic goals, such as realizing its human potential and actively participating in the financial and social development of the country or countries in which it operates in line with various social stakeholders' demands. While pursuing purely economic goals allows a company to ensure its continuity, satisfying stakeholders generates the social consensus necessary for long-term success.

This cultural orientation directly refers to the organicistic theory of business, which in some respects overlaps with and sometimes replaces the systemic theory (BALDARELLI, 2006). The company is considered akin to a living organism that weaves multiple relationships with other entities in its environment, dynamically dominating and adapting to environmental conditions by activating homeostatic processes and capable of transmitting outward a series of messages that inform about its distinctive characteristics, essentially the DNA of the business (CATTURI, 2007). The economic and social importance of this theory is evident. It posits that genuine business success cannot be separated from

humanity's well-being. Without this alignment, success becomes either unattainable or fleeting.

These foundational principles establish a broad conceptual base, preparing for an examination of IDT's application within the business context.

2.2 Practical applications in business and society

Building on these core principles, IDT provides a comprehensive framework for analyzing business development across economic, social, ethical, and spiritual dimensions (SORCI, 2005). It is important to note that not all movements constitute development, and not all movements lead to a better position. Thus, for every action, it is necessary to establish objectives, set a clear direction, and identify a premise of value. Human integral development is not one-dimensional. Humans possess rationality and free will. Hence, they can use these to improve themselves and their community's well-being through rational thinking and wise choices (SORCI, 2007). IDT identifies four dimensions of the actions that humans can undertake for their development (WOJTYLA, 1979):

1. The dimension of the act itself carried out to achieve an immediate end;
2. The intentional dimension of the act, which refers to the improving or worsening consequences of the act on the person who performs it;
3. The relational dimension, which, unlike the previous one, refers to the person receiving the act;
4. The transcendent or external dimension explains the effects of the act on society and the external environment.

To reach the highest level of integral development, a person must navigate all four dimensions, with the quality of their actions determining the level of development achieved. Identifying a specific value premise stimulates a person to move from a potential state to action, setting the stage for future actions. This theoretical approach considers development not just in economic terms but in a comprehensively human sense.

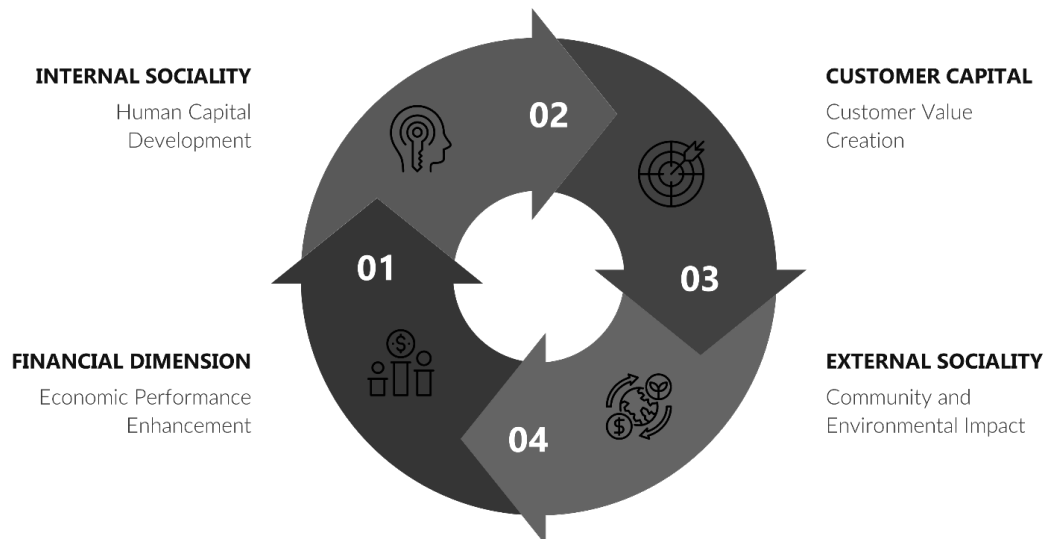
Applying multidimensional IDT to business economics is feasible because firms are institutions made up of people. A firm can perform each action for:

1. Enhancing economic outcomes;
2. Amplifying the company's value through professional growth, cohesion, and a sense of belonging, thereby bolstering human capital (MELÉ, 2023);
3. Elevating customer value by consistently enhancing the quality of products and services, not only meeting customer needs but also proactively anticipating future demands to augment customer capital (NORMANN, 2001);
4. Fostering the economic and social development within the company's broader community to actively contribute to external sociality (political dimension).

Figure 1 depicts the integral development circle for organizations. As with humans, companies must move along the four dimensions to achieve the maximum possible development. Integral development links the company to community progress while respecting the dignity and the environment (DEL BALDO, 2020).

In this way, IDT provides a structured approach to business development that can effectively guide sustainable practices. This alignment with sustainability is further mirrored in various contemporary business models.

Figure 1 – The integral development circle



2.3 Alignment with sustainability models

Recent literature on integrating sustainability into business management underscores a growing trend of companies embracing sustainability as a core aspect of their strategy and embedding it within their operational practices (MIGNON and BANKEL, 2023; YAVUZ *et al.*, 2023). This analysis reveals diverse approaches and models businesses employ to infuse sustainability metrics and indicators into their routines, with varying degrees of alignment with the principles of IDT. For instance, Abu-Rayash and Dincer (2021) propose a structured model of integrated sustainability performance indicators, highlighting the importance of measurable and evaluative metrics to enhance both credibility and precision in sustainability assessments.

One prominent approach involves applying the triple bottom line framework, which expands the traditional reporting framework to include ecological and social performance alongside financial metrics (ELKINGTON, 1998). This model mirrors the multidimensional perspective of IDT by advocating for a balance between economic success and the welfare of societal and environmental systems. Companies that adopt the triple bottom line framework often provide extensive non-financial reports on sustainability, including resource usage, waste management, and community impact (MENDES *et al.*, 2023). These reports align with the external and relational dimensions of IDT. Similarly, Sikdar, Sengupta, and Harten (2012) discuss the benefits of consolidating multiple indicators into a single sustainability index, an approach that streamlines reporting and enhances comparability across industries.

Another significant model is the corporate sustainability model, which integrates sustainability directly into firms' strategic management processes (ASSORATGOON and KANTABUTRA, 2023). This model encourages companies to identify specific sustainability goals as part of their corporate strategy, often driven by stakeholder engagement and regulatory frameworks. Unlike IDT, which inherently seeks to balance multiple dimensions

of development, these corporate models sometimes prioritize strategic business interests, which can skew the balance toward economically beneficial outcomes at the expense of broader societal or environmental gains (BUSCH *et al.*, 2024). Gatto (2020) endorses this pluralistic approach, demonstrating how the integration of human and local development perspectives enhances corporate sustainability models by emphasizing multidimensional well-being.

Furthermore, emerging literature highlights the increasing use of sustainability balanced scorecards, which adapt the traditional approach to include sustainability as a fundamental component (AL-MAWALI, 2023). This adaptation enables firms to effectively track their performance against sustainability goals and align their business practices with long-term environmental and social objectives. The alignment with IDT is evident as this model promotes an integrative view of business performance that includes ethical, social, and financial dimensions, encouraging firms to act as economic agents and social stewards. Eccles, Ioannou, and Serafeim (2014) demonstrate how corporate sustainability shapes organizational processes and performance, emphasizing the strategic importance of integrating balanced sustainability metrics into core business practices.

In contrast to the adaptation of IDT in business economics, which promotes an integral approach to development, these models showcase a variety of implementations that range from deeply integrated to more superficial alignments with sustainability principles. For instance, Esposito, Dicorato, and Doronzo (2021) examine the impact of ownership structures on sustainability outcomes, particularly in sectors such as waste management, revealing how collaborative ownership models, especially with private partners, enhance sustainable practices by increasing efficiency and reducing service costs. Furthermore, Tafuro *et al.* (2022) propose applying fuzzy logic to adapt performance measurement models, enhancing flexibility in traditional metrics and enabling firms to tailor indicators more precisely to specific organizational needs.

Each model offers unique insights into how sustainability can be operationalized within business contexts, providing a rich tapestry of approaches that can complement or diverge from the comprehensive framework proposed by IDT. As businesses continue to evolve and refine their sustainability practices, these models will play a pivotal role in shaping the future of sustainable business management.

3. Theory adaptation methodology

A rigorous methodology is crucial for effectively adapting IDT for application within business sustainability practices. We utilized the theory adaptation methodology, which seeks to amend existing theories by introducing alternative frameworks to propose novel perspectives (JAAKKOLA, 2020). This method ensures scientific rigor and value by problematizing IDT and using sustainability as a method theory to expand its conceptual scope (LUKKA and VINNARI, 2014). It involves three main steps: an extensive literature review, a blend of deductive and inductive approaches, and the operationalization of sustainability indicators within the IDT framework.

Global markets and environmental challenges compel businesses to integrate social and ecological responsibilities alongside economic performance. Traditional models often fail to adequately address these dimensions, an ideal gap that IDT can fill with its holistic approach. By embedding sustainability within IDT's core, we transform the theory into a

practical toolkit for businesses aiming to achieve comprehensive sustainability goals, making IDT more relevant and aligned with contemporary demands for corporate responsibility across diverse stakeholders.

Our adaptation process began with an extensive literature review to identify the current landscape of sustainability in business management. We pinpointed existing models and metrics that align with IDT's dimensions and introduced new metrics to address gaps, employing a dynamic interplay between deductive and inductive approaches.

Deductively, we expanded IDT's traditional dimensions by integrating constructs of environmental and social responsibility and economic viability, applying sustainability principles to redefine and enhance these aspects. Inductively, we drew from seminal papers and case studies of businesses that have successfully incorporated sustainability practices, using these examples to refine our adaptation of IDT and validate its effectiveness. In this study, foundational papers and existing case studies were analyzed to identify sustainability practices and metrics recognized by other authors as effective in real business contexts. This critical review of empirical sources enabled the selection of established, high-performing metrics to integrate into the proposed IDT framework, enhancing both its practical relevance and theoretical rigor. However, empirical validation of the model is beyond this study's scope and is recommended for future research.

This methodological approach ensured that the adapted IDT was theoretically robust and practically applicable across various business contexts, guiding companies in measuring and enhancing their sustainability performance. Continuously testing and refining the theory through iterative cycles ensures that sustainability becomes a core component of IDT rather than a peripheral addition.

Building on insights from Brodie *et al.* (2019) regarding engagement within marketing networks, the next phase focused on operationalizing more tangible indicators across IDT's redefined dimensions. Brodie *et al.*'s (2019) approach broadens the conceptual scope from individual interactions to a networked context, providing a valuable framework for expanding IDT's application. This adaptation involved identifying clear, actionable indicators that measure and drive sustainability across business operations' economic, social, and environmental facets. By integrating these multidimensional metrics, we ensured the theory's application was comprehensive and practical, aligning with current business management needs and sustainability objectives. Here is how each of the four IDT dimensions aligns with the theoretical framework and meets the practical needs of businesses:

1. Economic results: Focus on key financial performance metrics reflecting strategic and operational efficiencies crucial for long-term viability.
2. Competitiveness: Emphasize improving product and service quality, customer satisfaction, and anticipating market trends to enhance market share and brand loyalty.
3. Internal sociality: Assess and cultivate an organizational culture aligned with sustainability goals through comprehensive audits and surveys.
4. External sociality: Leverage detailed sustainability reporting and impact assessments to measure the business's broader societal and environmental impacts.

By applying these refined dimensions, the integral development circle for companies becomes a dynamic model guiding businesses toward achieving their maximum potential development. We refined each dimension to capture the immediate and long-term effects

of sustainability initiatives, providing firms with a clear pathway to integrate these practices into their strategic and operational frameworks.

Adapting IDT to include sustainability enhances the theory's practicality, advances academic understanding, and offers a valuable framework for companies committed to sustainable development. Through this methodology, we aim to position businesses as leaders in sustainable practice, setting standards for industry peers and contributing positively to global sustainability efforts.

4. Development of sustainability indicators

Developing sustainability indicators is vital for translating the IDT into actionable strategies within business management. These indicators operationalize the theory's multidimensional approach, enabling businesses to comprehensively measure and enhance their economic, social, and environmental impacts. By embedding these metrics into business practices, firms can align their operations with their strategic objectives and societal values, fostering sustainable growth. This adaptation responds to increasing regulatory and market demands and enhances corporate responsibility and stakeholder engagement, ensuring the theory's practical application and relevance in contemporary business environments.

As we operationalize IDT through developing sustainability indicators, it becomes imperative to detail how each dimension translates into practical, measurable outcomes. These dimensions, namely economic results, competitiveness, internal and external sociality, are interconnected and pivotal in manifesting IDT's core principles into everyday business strategies. By breaking down these dimensions, we can explore how they contribute uniquely to both the operational success and sustainable advancement of organizations, ensuring that IDT's holistic approach is fully integrated into the fabric of business operations.

4.1 Economic results

This dimension emphasizes a company's direct financial performance. Here, sustainability is operationalized through financial metrics like revenue growth, profitability, and cost efficiency. This aligns with IDT by ensuring that businesses can sustain their operations and continue to contribute socio-economically over time. This pragmatic application ensures that the theory is not just idealistic but grounded in measurable economic realities.

Defining specific financial metrics is crucial for accurately assessing a company's economic performance and viability. Azizan and Abidin (2024) highlighted the importance of comprehensive financial metrics such as net profit margin, return on investment (ROI), and earnings before interest, taxes, depreciation, and amortization (EBITDA). These metrics provide essential insights into profitability and operational efficiency. Additionally, growth metrics like annual revenue and compound annual growth rates (CAGR) indicate a company's ability to expand operations and its economic footprint over time.

Cost-efficiency indicators, including the cost of goods sold (COGS) to revenue ratio and the operating expense ratio, are pivotal for assessing how effectively a company manages its expenditures about its revenue. Moreover, the refined economic value added

(REVA) model offers a sophisticated analytical framework that aligns operational performance with shareholder value creation. This alignment enhances the practical application of financial metrics in evaluating firm performance, as Bacidore *et al.* (1997) detailed.

Table 1 summarizes key indicators for assessing a company's financial performance and long-term viability, facilitating an understanding of economic sustainability metrics within the IDT framework.

Table 1 – Key economic indicators

Dimension	Metric	Description
<i>Economic Results</i>	Revenue Growth	Measures the annual increase in revenue, reflecting economic expansion.
	Profitability (Net Profit Margin, ROI)	Assesses financial health through profitability ratios and return on investment.
	Cost Efficiency (COGS to Revenue Ratio, Operating Expense Ratio)	Evaluates how efficiently a company manages its expenditures in relation to its revenue.
	Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA)	Offers insights into operational efficiency and profitability before financial and accounting factors.
	Annual Revenue and Compound Annual Growth Rate (CAGR)	Indicates the company's growth and economic footprint over time.

These metrics collectively provide a robust framework for tracking financial health and guiding companies in making informed economic decisions. While these indicators are primarily economic in nature, understanding their interplay with broader business strategies can indirectly support sustainability goals. As Eccles, Ioannou, and Serafeim (2014) suggested, the strategic integration of sustainability practices into business operations can impact financial performance, making the pursuit of sustainability a complementary objective alongside traditional economic metrics.

4.2 Competitiveness

Competitiveness in business extends beyond mere financial metrics, encompassing factors crucial to a firm's market position and long-term viability. Innovation, market share, and customer loyalty are pivotal indicators that reflect a firm's ability to adapt and evolve in response to market dynamics (ZOLLO, MINOJA, and CODA, 2018). These indicators align with the IDT's emphasis on dynamic and adaptive systems. By focusing on these aspects of competitiveness, firms can effectively operationalize IDT to promote survival, growth, and relevance within their industries (KHENG, 2022).

Key indicators for enhancing product or service quality and customer satisfaction include customer satisfaction scores, net promoter scores (NPS), and product quality

ratings. These metrics are critical for influencing customer loyalty and retention, thus providing a competitive advantage (VUK, 2012; BAEHRE *et al.*, 2022). Market share and brand equity indices also offer insights into a firm's market positioning and brand value. Managers can also gauge quality improvement through return and warranty claims rates, reflecting product reliability and the effectiveness of quality control processes.

Table 2 below outlines primary metrics reflecting a company's market competitiveness and customer engagement, which are essential for aligning business practices with IDT's multidimensional approach.

Recent studies highlighted the strategic integration of Environmental, Social, and Governance (ESG) criteria with these competitive metrics, significantly enhancing market positioning and company branding. This integration strengthens a company's competitive position and aligns its operations with modern corporate responsibility and sustainability expectations. Such strategic use of ESG criteria underscores the importance of high customer service and product excellence standards, furthering the firm's competitive edge in the market (CHUSNIYAH *et al.*, 2023).

Table 2 – Competitiveness indicators

Dimension	Metric	Description
<i>Competitiveness</i>	Customer Satisfaction Scores	Gauge customer satisfaction and service quality.
	Net Promoter Score (NPS)	Measures customer loyalty and the likelihood of recommending the company's products or services.
	Product Quality Ratings	Assess the quality of products/services as customers perceive.
	Market Share	Tracks the company's portion of market sales.
	Brand Equity Indices	Evaluate the value of the brand in the market.
	Return and Warranty Claims Rates	Reflect product reliability and the effectiveness of quality control processes.

4.3 Internal sociality

This dimension centers on the human capital within the organization, embodying IDT's human-centric philosophy (THOMAS, MARINANGELI, and PASSARO, 2013). To harness this potential, companies must implement comprehensive metrics that capture facets of employee engagement and training effectiveness.

As studied by Saks (2006), employee engagement surveys are vital for aligning employee values with the organization's sustainability objectives. These surveys measure emotional commitment, job involvement, and satisfaction, which directly influence performance and retention, as detailed by Murray and Holmes (2021).

Evaluating the impact of sustainability training programs on employee skills and behaviors is crucial. Bakker and Demerouti (2008) emphasized the importance of such training in developing an engaged and skilled workforce that actively supports the firm's sustainability goals. Metrics might include changes in employee sustainability knowledge before and after training sessions, application of learned skills, and overall training satisfaction rates (PODGORODNICHENKO, EDGAR, and AKMAL, 2022).

Furthermore, monitoring additional internal metrics pertinent to organizational health and sustainability is advisable. These metrics should include gender equality, workforce diversity, employee participation rates in sustainability initiatives, and the implementation of employee suggestions that contribute to sustainability enhancements. Indeed, Temel, Lozano, and Barreiro-Gen (2022) highlighted that these indicators help gauge the staff's proactive involvement in sustainability efforts and integration of such practices into daily operations.

Table 3 presents indicators for assessing the social dimension within an organization, focusing on internal sociality aspects such as employee engagement, training, and inclusivity, in alignment with IDT's human-centric values.

Table 3 – Internal sociality indicators

Dimension	Metric	Description
<i>Internal Sociality</i>	Employee Engagement Surveys	Measure emotional commitment, job involvement, and satisfaction.
	Training Effectiveness (Pre- and Post-Training Assessments)	Evaluates changes in employee sustainability knowledge and application of learned skills.
	Diversity and Inclusion Metrics	Monitor gender equality, workforce diversity, and inclusivity.
	Participation Rates in Sustainability Initiatives	Assess employee involvement in sustainability efforts.
	Implementation of Employee Suggestions	Measure how employee suggestions contribute to sustainability enhancements.

By implementing these assessments, companies cultivate a culture that values continuous improvement and innovation in sustainability. This approach transforms the organization into a living ecosystem where sustainability is everyone's responsibility, deeply woven into the corporate fabric. This shift from mandate to personal commitment fosters a resilient and adaptable organization, aligning corporate sustainability with the human-centric ideals of IDT.

4.4 External sociality

This dimension underscores organizations' broader societal and environmental responsibilities, reflecting the IDT's commitment to comprehensive sustainability (Del Baldo, 2013). Firms are increasingly held accountable for internal practices and their impact on the broader community and environment.

Companies adhere to sustainability reporting standards such as the Global Reporting Initiative (GRI) or the European Sustainability Reporting Standards (ESRS) to provide transparent and standardized disclosures on various sustainability aspects. These standards cover multiple topics, from environmental conservation efforts to social welfare initiatives, offering stakeholders a detailed view of the company's sustainability practices (MARQUIS and TOFFEL, 2012). This reporting approach includes community involvement measures that evaluate how well a company integrates with and supports local communities. These measures focus on community investment, local hiring practices, and participation in local governance to promote sustainable regional development (PORTER and KRAMER, 2006; BERNINI and LA ROSA, 2023).

Environmental Impact Assessments (EIA) are also employed to evaluate the potential ecological effects of operational activities, helping companies identify significant environmental impacts, implement mitigation strategies, and enhance corporate green responsibility (MA, MUSONDA, and ALI, 2023). Alongside EIAs, carbon footprint analyses, water usage, and waste management metrics are crucial. Carbon footprint analysis evaluates the total set of greenhouse gas emissions caused directly and indirectly by an organization, which is essential for managing climate impacts in alignment with global climate goals (BEN-AMAR *et al.*, 2022). Similarly, metrics tracking water efficiency and waste reduction practices, such as the percentage of recycled waste and reductions in water use, illustrate the effectiveness of a company's environmental commitment (SCHALTEGGER and CSUTORA, 2012).

Table 4 details indicators of external sociality, emphasizing the broader societal and environmental responsibilities that companies are encouraged to embrace, as advocated by IDT.

Table 4 – External sociality indicators

Dimension	Metric	Description
<i>External Sociality</i>	Sustainability Reporting Standards (GRI, ESRS)	Standardized disclosures on environmental, social, and governance (ESG) criteria.
	Community Investment	Assesses contributions to local governance and community projects.
	Local Hiring Practices	Evaluate the practice of employing the local workforce.
	Environmental Impact Assessments (EIA)	Estimate ecological effects of operations and mitigation strategies.
	Carbon Footprint Analysis	Measures greenhouse gas emissions caused directly and indirectly by an organization.
	Water Usage and Waste Management Metrics	Track efficiency in water use and effectiveness of waste reduction practices.

By integrating these comprehensive metrics, businesses demonstrate their commitment to IDT's sustainability and social responsibility ethos. This alignment enhances corporate reputation and operational efficiency and ensures compliance with global sustainability standards. Ultimately, adopting these metrics transforms a business into an entity that values and actively contributes to environmental sustainability and societal well-being, fostering a corporate identity deeply woven with the principles of IDT.

4.5 Integrating IDT metrics into business operations

Integrating sustainability indicators into daily management practices and strategic planning is crucial to operationalizing sustainability within businesses. Companies can track progress and adapt strategies by systematically applying the metrics outlined in previous sections. This systematic integration allows firms to respond dynamically to market changes and regulatory demands while aligning with their sustainability objectives.

Senior management plays a pivotal role in this process by regularly reviewing these indicators to assess the company's adherence to sustainability benchmarks. This review ensures that sustainability considerations are integral to business operations rather than being treated as peripheral elements.

Aligned with IDT's multidimensional approach, the systematic application of these sustainability metrics upholds environmental and social governance standards, enhances corporate competitiveness, and bolsters economic viability. Such an approach demonstrates the tangible business benefits of adopting sustainable practices and promotes a culture of continuous improvement and accountability. This cultural shift is essential for achieving long-term sustainability success, fostering an environment where every business decision supports broader sustainability goals.

4.6 Hypothetical scenarios in industry contexts

Specific industries face significant challenges in addressing corporate social responsibility (CSR) issues, particularly those in controversial or extractive sectors. For example, the oil, gas, and mining industries often engage in practices such as environmental degradation and the exploitation of local communities, which contradict their CSR claims, as illustrated by companies like Chevron (MARTÍNEZ-ALIER, 2023). Similarly, the textiles and apparel sectors struggle with labor rights and environmental concerns, complicated by the geographical distance from production sites that hampers effective oversight and accountability (BHATNAGAR and NIINIMÄKI, 2024). Controversial industries like alcohol, firearms, and tobacco generally report lower rates of CSR activities, often focusing on social initiatives aimed at offsetting inherent harms rather than addressing core issues directly (MARTINS, GOMES, and BRANCO, 2024). Collectively, these industries illustrate a systemic struggle to implement genuinely effective CSR practices.

To illustrate the practical application of the IDT framework and its sustainability metrics, consider the following hypothetical scenarios, which examine both successful implementations and potential challenges, along with strategies for overcoming them.

First, an international oil company faces mounting pressure from environmental activists and local governments over its high carbon emissions and impact on local communities. The company must balance economic goals with environmental and social responsibilities when operating in a region with sensitive ecosystems and a community

dependent on natural resources. Utilizing the IDT framework, it integrates metrics like carbon footprint analysis and EIAs to identify emission reduction opportunities and minimize ecological disturbance. The company invests in emissions control technologies and water conservation initiatives, aligning with IDT's external sociality dimension. Additionally, it launches local hiring programs to boost community employment and economic outcomes. These IDT-aligned practices enhance the company's environmental responsibility, build community support, and improve brand equity and competitiveness over time.

Second, a global apparel brand faces scrutiny over working conditions in its overseas factories, with reports of unsafe environments and low wages harming its reputation and customer loyalty. The company uses IDT metrics to address these internal sociality issues, implementing employee engagement surveys, training assessments, and diversity metrics. Partnering with local organizations, it offers skill development programs that empower workers, boosting satisfaction and productivity. Additionally, it invests in factory upgrades and safety protocols, prioritizing worker well-being and aligning with IDT's relational dimension. These efforts increase employee retention, reduce turnover costs, and improve product quality and customer satisfaction, reinforcing the company's competitiveness and commitment to IDT's human-centric approach to sustainability.

Finally, a leading alcohol producer faces community backlash due to the social impacts of alcohol abuse. Community members criticize the company for its lack of contributions to local welfare and social causes. To address these concerns and fulfill its CSR obligations, the company applies IDT's external sociality dimension by adopting sustainability reporting standards, such as the GRI framework, and launching community investment projects. It partners with local healthcare providers for addiction counseling, funds community centers for safe recreation, and creates a scholarship program for underprivileged youth. These initiatives enhance the company's community image, mitigate social risks, and generate goodwill, reinforcing brand equity and aligning with IDT's principles of holistic community development.

These scenarios illustrate how the IDT framework and its sustainability metrics can help companies across industries balance economic goals with social and environmental responsibilities, fostering resilience, stakeholder trust, and long-term competitive advantage.

5. Discussion and conclusion

5.1 Theoretical implications

This study advances IDT by expanding its conceptual framework to incorporate sustainability and financial metrics, aligning it with the multidimensional demands of contemporary business. This adaptation highlights how firms can concurrently address economic, social, and environmental responsibilities. By embedding constructs of corporate responsibility and financial viability, the model provides an integrated view of business performance that resonates with evolving societal values and regulatory requirements. These additions to IDT's theoretical foundation offer new insights into how businesses can strategically align with sustainability imperatives, contributing to a more comprehensive framework for ethical and practical management.

5.2 Practical implications

This study offers a structured toolkit that companies can apply directly to integrate sustainability metrics within their strategic management processes. The adapted IDT framework provides actionable indicators, enabling businesses to track and improve sustainability efforts across economic, social, and environmental dimensions. By embedding sustainable practices into core operations through these practical applications, companies can enhance long-term profitability and build stakeholder trust, contributing more substantially to Sustainable Development Goals (NIYOMMANEERAT, SUWANTEEP, and CHAVALPARIT, 2023; GOMES, COELHO, and RIBEIRO, 2024).

However, integrating new sustainability metrics into business operations introduces challenges, including resource allocation, cultural shifts, and the need for technological upgrades.

Leadership plays a pivotal role in guiding these sustainability efforts (KURUCZ *et al.*, 2017). Transformative leadership styles, defined by inspirational motivation, intellectual stimulation, and individualized consideration, facilitate the adoption of sustainable practices by fostering a culture of commitment and resilience within organizations (ABOLADE, 2024; COSA, 2025). Through embedding social impact and sustainability into strategic frameworks, transformative leaders drive sustainable innovation, enhance stakeholder engagement, and promote investment in technology (ALHAZEMI, 2024; LYTRAS, ALKHALDI, and MALIK, 2024). Their charisma and strategic insight further help to reduce resistance to change, fostering innovative solutions and a heightened sense of responsibility among followers (GHERASIE *et al.*, 2024).

Additionally, companies can learn from successful implementations like those detailed in Ibáñez-Forés *et al.* (2023), emphasizing the importance of aligning employee values through training. Scalable technological solutions can also mitigate costs and complexity, facilitating the adoption of sustainability practices. These strategies enhance decision-making and corporate responsibility, effectively bridging theoretical concepts with practical business applications. Our study suggests that integrating these practices into strategic management allows companies to respond more effectively to market shifts and regulatory pressures, strategically aligning their operations with sustainability goals, thereby improving decision-making and corporate accountability.

5.3 Limitations and future research

The study has some significant limitations. While this paper presents a theoretical framework, it does not include empirical validation through case studies. Future research could apply the adapted IDT model in diverse business settings to empirically assess its effectiveness and adaptability across sectors. A critical methodological limitation is the study's reliance on the theoretical integration of sustainability indicators within the IDT framework without comprehensive empirical testing across industries and organizational contexts. Although the theoretical foundation is solid, there is a lack of empirical evidence regarding the effectiveness and impact of these integrated indicators in practice.

Future research should pursue longitudinal studies and cross-sectoral analyses to validate the efficacy of these sustainability indicators, ensuring they not only align with IDT but also deliver measurable improvements in organizational sustainability practices. Specifically, comparative case studies across industries such as energy, manufacturing, and

textiles could provide insights into how sector-specific challenges, such as carbon emissions in energy or labor conditions in textiles, influence the framework's applicability. Additionally, research could examine geographical and cultural variations in IDT adoption, exploring how regional regulatory standards and cultural attitudes toward sustainability influence model implementation across different countries. Further investigation could also focus on the role of technology, including artificial intelligence and big data, in enhancing sustainability tracking and reporting within the IDT framework, potentially enabling real-time monitoring of sustainability metrics across various dimensions.

Another valuable for refining and integrating frameworks, this methodology may encounter challenges in translating theoretical constructs into universally applicable practices across varied organizational contexts. For instance, smaller firms, such as SMEs with limited resources, may face challenges implementing specific sustainability indicators due to cost constraints and operational limitations. Moreover, industry-specific factors may affect the relevance and feasibility of certain metrics. Tailoring the framework to meet the unique needs of different organizations, including through empirical studies, will be essential for future research.

As this study is theoretical in nature, it does not provide concrete case examples or empirical validation of the adapted framework. Future research could conduct empirical studies across various organizational contexts to evaluate the practical applicability and effectiveness of the proposed metrics. Additionally, a stakeholder-centered approach could prove beneficial, creating tailored metrics within the IDT framework to address the expectations of different stakeholder groups, such as consumers, investors, or local communities. This focus on stakeholder-specific adaptations could further enhance the framework's adaptability to diverse organizational needs. A further promising direction for future research is to develop a unified metric that captures a firm's overall sustainability performance. Such a metric would offer a comprehensive view of a company's sustainability efforts, facilitating implementation and benchmarking across industries. This approach would be particularly valuable in sectors where sustainability directly affects operational outcomes, such as manufacturing, energy, and agriculture. It could also foster the creation of methodologically sound frameworks that offer actionable strategies for companies aiming to enhance their sustainability performance comprehensively (SIKDAR, SENGUPTA, and HARTEN, 2012; CHEN, WANG, and LUND, 2020; KRUSTEV, 2023). Research on how different sectors adapt the IDT framework to address their unique ESG challenges could deepen understanding of its flexibility and applicability across diverse business contexts, enhancing theoretical insight and practical applications in sustainable business practices.

ANNA MARIA FELLEGARA
Full Professor of Business Administration

MARCELLO COSA
Postdoctoral Researcher in Business Administration

Università Cattolica del Sacro Cuore
Faculty of Economics and Law
Department of Economic and Social Sciences (DiSES)
marcello.cosa@unicatt.it

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