# ESG + Digital Transformation for Profitably Sustainable Business White Paper

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## Executive Summary

As managing ESG (environmental, social, governance) and sustainability issues have become mainstream business practice, there is no doubt in the minds of corporate leaders that ESG/sustainability issues should be a top priority agenda in boardrooms. However, it is still challenging to integrate ESG/sustainability considerations fully into business practices due to the difference between short-term financial goals and longer-term ESG/sustainability performance. Thus, top executives usually give weight to the shorter-term financial metrics when trade-offs between financial and ESG/sustainability performance come into focus.

Since the first industrial revolution, which gave rise to stockholders' capitalism, the purpose of businesses and the focus of management has been the single-minded pursuit of profit. Adding environmental and social responsibilities to stakeholders is now fundamentally changing corporations and their governing bodies. With the fourth industrial revolution, powered by digital transformation, firms' focus broadened to include stakeholders in addition to stockholders. As ESG transformation takes hold, another technology-driven trend-Digital Transformation, is challenging companies' business models, employee relationships, and governance practices that have been in place for hundreds of years. This twin transformations journey prompts the emergence of new business and operational frameworks.

The integration of ESG/sustainability and Digital Transformation or ESG/sustainability integrated transformation (ESGDX) enables organizations to optimize the use of digital technology to secure competitiveness, growth, and positive ESG/sustainability impact. ESGDX promotes growth by balancing financial and ESG/sustainability goals simultaneously through a strategic development of the business model for profitable and sustainable business practice. Integrating ESG/sustainability into a “digitally transformed” business model or SDBM (Sustainable Digital Business Model) serves as a growth engine by improving a company’s operations/products/services and by creating new market opportunities/revenue streams. ESGDX framework for profitably sustainable business corresponds to the development and execution of the components of SDBM: Sustainable digital value proposition, Sustainable digital value creation, Sustainable digital operating model, and Sustainable digital value capture.

Sustainability Digital Competency (SDC™) engineering methodology enables development, implementation, deployment, and communication of competitive SDBM for profitably sustainable business practice. SDC™ engineering methodology adopts systems thinking and system dynamics approach in the development of SDBM. SDC™ engineering methodology considers a business model as a system. To exploit and leverage digital technology for effective implementation and best practice deployment of SDBM, an efficient and effective supporting enterprise digital resources/infrastructure implementation method is developed. For a successful deployment of SDBM, a business case of a specific industry/business is developed for evaluating whether the developed SDBM can best respond to the future potential scenarios. For stakeholders communications, ESDGX complementary playbook shows performance measurement and outcomes of SDBM. The ESDGX playbook is added to the sustainability report based on standard reporting frameworks.

**Guide to This White Paper**

The first part of this white paper introduces ESG/sustainability imperative, ESG/sustainability conundrum and a new paradigm for ESG/sustainability business practices. The focus is on creating and keeping sustainable growth. The second part of this white paper discusses digital and ESG integrated transformation (ESGDX) imperative. The third section is dedicated to the ESGDX framework for profitably sustainable business. The final section introduces the SDC™ engineering methodology.

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## I. Introduction

**ESG/sustainability imperative:**

Managing ESG (environmental, social, governance) and sustainability issues have become mainstream business practice. This is a result of mounting pressure from a variety of stakeholders, including the consumers, investing community, social groups, and governments and new opportunities, including reputation, better access to investment capital, and business resiliency. There is no doubt in the minds of corporate leaders that ESG/sustainability issues should be a top priority agenda in corporate boardrooms now.

**ESG/sustainability conundrum:**

As explained in a recent study[1], CEOs who pursue ESG/sustainability management more actively are more likely to get fired for poor financial performance than CEOs who do not. This may be explained by the difference between short-term financial goals and longer-term ESG/sustainability performance. Thus, top executives usually give weight to the shorter-term financial metrics when trade-offs between financial and ESG/sustainability performance come into focus. Thus, CEOs usually tend to give weight to the short-term financial metrics in trade-offs between financial and ESG/sustainability performance rather than operate at the best possible levels of some mix of financial and ESG/sustainability performance. This may explain why it is challenging to fully integrate ESG/sustainability considerations into business practices.

**A new paradigm for ESG/sustainability business practice is needed for creating and keeping sustainable growth:**

How can companies achieve short-term profits and ESG/sustainability goals at the same time? Initiatives to increase operation efficiency, mitigate potential risks, introduce new products/services with an endurable level of financial performance over time may be a partial solution: companies cannot avoid trade-offs between ESG/sustainability and financial performance entirely without a fundamental change in business practice. The paradigm shift from short-term financial return maximization approach to multi-terms balancing growth - balancing financial and ESG/sustainability goals simultaneously through the ESG and digital integrated transformation (ESGDX) will be discussed in the following sections.

[1]Can We Afford Sustainable Business?, MIT SMR MAGAZINE FALL 2021 ISSUE (https://sloanreview.mit.edu/article/can-we-afford-sustainable-business/)

## II. ESG Digital Integrated Transformation (ESGDX) Imperative

Digital and ESG integrated transformation (ESGDX) enables digital sustainability for optimal use of digital technology to secure competitiveness, growth, and positive ESG/sustainability impact.

According to Accenture[2], "companies that integrate digital and sustainable transformations into their operations and value chains are 2.5 times more likely to be among tomorrow's best performing businesses than those who don't." Accenture suggested that enacting business models driven by sustainability and enabled by technology is a possible way of executing ESGDX.

According to WEF[3], successful business leaders will seize a new post-COVID 19 pandemic opportunity by expanding their competitive advantage and delivering long-term value by deepening the integration of ESG/sustainable practices across their business and value chain and digital transformation. "Effective leaders will need to integrate ESG/sustainability considerations within their core business strategies to determine where new value exists, which business models will capture it, and which digital and data-driven technologies will enable them to meet their objectives."

According to Schneider Electric[4], "sustainability and digital transformation benefits go hand-in-hand through the assimilation of ESG/sustainability and digital transformation:" New data generated through digital transformation and utilization of the data result in creation of new processes[5] that drive higher efficiency, agility, productivity, circularity, and sustainability operations.

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[2]The European double up, Accenture Strategy JANUARY 22, 2021 (https://www.accenture.com/us-en/insights/strategy/european-double-up)

[3]Bridging Digital and Environmental Goals: A Framework for Business Action, World Economic Forum MARCH 2021 (https://www3.weforum.org/docs/WEF_Bridging_Digital_and_Environmental_Goals_2021.pdf)

[4]Why sustainability and digitization go hand-in-hand, TechNative OCTOBER 28, 2021 (https://technative.io/why-sustainability-and-digitization-go-hand-in-hand/)

[5]Dow Chemical Company, for example, combined process improvement with environmental impact sustainable innovation, resulting in the use of 50% less water and 90% less chemicals in the dyeing process: Dow ESG Report https://corporate.dow.com/en-us/esg/report/environmental-performance/impact/water.html.

## III. ESGDX Framework for Profitably Sustainable Business

Digital transformation is the adoption and integration of digital technologies to transform all areas of business functions: fundamental change of an organization's business operation; cultural change of an organization's way of working; transformation of customer experience etc. Technology, data, and organizational change capability are the core elements of digital transformation, and they must function well together.

A business model describes how a company can create, deliver, offer, and capture value: customer value proposition is to offer the created value, the operating model is to deliver the created value, product and service innovation is to create the value, and value capture is to monetize the created value through the pricing mechanism and cash flow generation.

The essential part of digital transformation is leveraging data and digital capabilities in an innovative way to reshape customer value propositions, to transform operating models for greater customer interaction through the efficiency and productivity gains within an organization and across the supply/value chain, to accelerate product and service innovation, and to provide new ways of monetization.

ESGDX requires a strategic development of business model for profitably sustainable business practice. The strategic development of the business model should consider strategic purposes, industry context, competitive pressures, customer expectations, and core competencies. By Integrating ESG/sustainability into digital business model (Sustainable Digital Business Model (SDBM)), a company can generate revenue streams, achieve cost savings, reduce business and ESG/sustainability risks, improve sustainable resource use, increase business resilience, gain customer trust, and expand market opportunities. Thus, SDBM for embedding ESG/sustainability considerations into a digital business model can serve as a growth engine by improving a company's operations/products/services and by creating new market opportunities/revenue streams through the orchestration, optimization and dematerialization of resources and assets.

ESGDX framework for profitably sustainable business[6] corresponds to the development and execution of the components of SDBM: Sustainable digital value proposition, Sustainable digital value creation, Sustainable digital operating model, and Sustainable digital value capture.

**Sustainable digital value proposition**

Sustainable digital value proposition reshapes value proposition (products/services to target customers, measurable environmental/social values (positive impacts)) to stakeholders, trust, and resilient business) using digital capabilities, customer/stakeholder relations, and marketing channels.

**Sustainable digital value creation**

Sustainable digital value creation refers to producing/providing products/services to target customers and environmental/social values to stakeholders using digital capabilities and business resources/assets sustainably (e.g., sustainable/circular products/services development).

**Sustainable digital operating model**

Sustainable digital operating model refers to delivering the created values using digital business processes (e.g., intelligent workflows/process automations), supply chain/value networks, and sustainable business operation (e.g., integrate ESG considerations into business operational decision-making criteria).

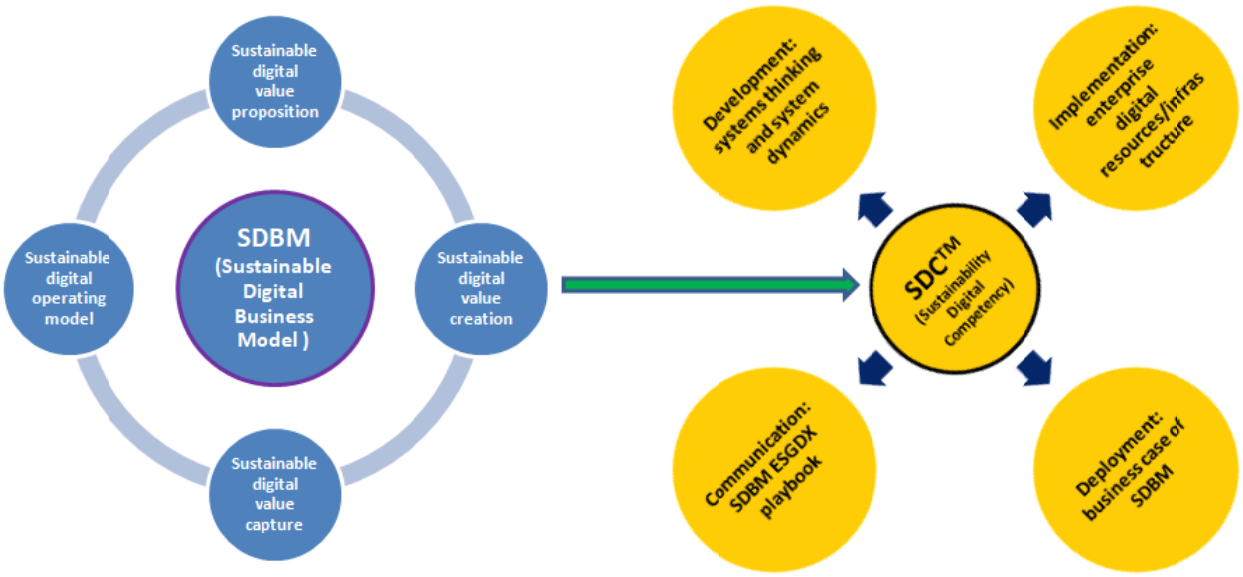
**Sustainable digital value capture**

Sustainable digital value capture refers monetizing the created value through profit formula (revenue/cost structure). Profit formula includes revenue generation/cost reduction through efficiency/productivity gain/new market opportunities/new monetization models (e.g., digital servitization) by digital transformation and sustainability opportunities/risks management.

[6]ESGDX framework for profitably sustainable business can be a practical way to implement a corporate purpose as explained in The Difference Between Purpose and Sustainability, Harvard Law School Forum on Corporate Governance (https://corpgov.law.harvard.edu/2021/08/20/the-difference-between-purpose-and-sustainability-aka-esg/): "The purpose of a company is to produce profitable solutions to problems of people and planet, while at the same time not profiting from producing problems for people or planet—a failure in sustainability. Long-term sustainable value creation starts with clarity of purpose. The products and services that are the solutions for people and planet will need to change as the world evolves in terms of its sustainability concerns about the negative externalities created by these solutions. Addressing these externalities must be done in a way that keeps the solutions profitable. Failure to do so will result in sustainability detracting from purpose, rather than supporting it."

## IV. Sustainability Digital Competency Engineering Methodology

Sustainability Digital Competency (**SDC™**) engineering methodology enables development, implementation, deployment, and communication of competitive SDBM for profitably sustainable business practice. The following figure summarizes SDC™ based SDBM implementation of ESGDX framework for profitably sustainable business. A detailed description follows.




### SDC™ for Development

SDC™ engineering methodology adopts systems thinking and system dynamics approach in the development of SDBM. SDC™ engineering methodology considers a business model as a system. Then, SDC™ engineering methodology investigates all business system components to find how these system components are interrelated dynamically and impact the business system within an organization and across the supply/value chain where it aligns with ESG/sustainability. The findings are used for embedding ESG/sustainability risks/opportunities/impacts into each component of SDBM (sustainable digital value proposition, sustainable digital value creation, sustainable digital operating model, and sustainable digital value capture) focusing on high-material ESG/sustainability issues strongly connected to the specific business practices, which can result in optimal ESG/sustainability management outcomes with financial profitability.

**SDC™ for Implementation**

To exploit and leverage digital technology for effective implementation and best practice deployment of SDBM, efficient and effective supporting enterprise digital resources/infrastructure (e.g., secure data management system, IoT/AI/blockchain/digital twin systems, process automation system, cloud computing platform) within an organization and across supply/value chain are essential. Required enterprise digital resources/infrastructure can be implemented either by renovating and integrating existing enterprise digital resources/infrastructure or custom development redesigning and integrating third-party solutions/platforms.

**SDC™ for Deployment**

For a successful deployment of the developed SDBM, a business case of SDBM for a specific industry/business is developed for evaluating whether the developed SDBM can best respond to the future potential scenarios. System Dynamics (SD) methodology is used to innovate and test the developed SDBM by developing a reinforcing feedback casual-loop diagram among components of SDBM. By integrating SD methodology and digital twin-assisted scenario analysis, forward-looking financial justification of the deployment of the developed SDBM can be made by the quantitative measures of ROI. Especially, our financial measurements adopt the bottom-up approach: The measuring processes and technologies are more likely to be local. Having local input and initiation of programs is more likely to be accompanied by measurement procedures and technologies that are integrated into the organizations operational processes.

**SDC™ for Communication**

To communicate with stakeholders for the performance measurement and outcomes of the development, implementation, and deployment of SDBM, ESGDX playbook (complementary to sustainability report based on standard reporting frameworks such as GRI/SASB/TCFD/WEF) can be developed. Evidence of ESGDX non-financial performance can be provided using sustainability accounting method. Details about SDMB innovation process can be included.

**About Vincula Group (https://www.vinculagroup.com/)**

Vincula Group is an international business performance consulting and professional services firm. Vincula works with Company Boards and their Executives to ensure that Assets, Strategy, Technology, Implementation Plans and Trained Resources are in place to compete effectively in the hypercompetitive business environment.

Why choose Vincula Group:
We are a heavily experienced international team of experts.
We use edge-of-the-art Cloud-based tools enabling services at single and multiple locations with consistent data collection around the world, simplifying scalability.
We use the collected data and best-known practices to develop transformative solutions.
We do not sell hardware or software and can objectively focus on the best solutions for our clients.

**If you have any questions, please contact Alex G. Lee (info@vinculagroup.com)**

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