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FOCUS

Protecting the Ocean A New Challenge

Edited by FRANCESCO PERRINI and STEFANO POGUTZ

THEMES

Capital Markets A Key Asset for Growth

STEFANO CASELLI

A Learning Orientation To Improve Impact Across Sectors

NIC BEECH, PAUL HIBBERT and KATY MASON

SDA Bocconi
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THE 5 CHALLENGES OF MANAGEMENT

In today's business environment, five key management challenges emerge: understanding changing market needs and demands, supply chains, and major geopolitical shifts; harnessing the power of digital through the use of innovative channels; embracing the imperative of social and environmental sustainability by avoiding greenwashing; and last but not least, developing inclusive and authoritative leadership.

PODCAST *Sandro Castaldo*

FROM THE EDITOR IN CHIEF

EDITORIAL

Economia & Management n.1, 2024
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SANDRO CASTALDO

A Journal with an Impact

The importance of language and platforms for promote constructive dialogue is emphasized, as is the need to build bridges between academic research and the world of management to promote real impact on organizational practice and society. Initiatives to foster interaction and the dissemination of ideas, such as the Festival of Management and the restructuring of Economia & Management, are mentioned, and current issues such as AI, sustainability, and the role of the younger generation in the mutual learning process are addressed.

RESEARCH IMPACT//MANAGEMENT//SCIENTIFIC COMMUNITY//AI//SUSTAINABILITY//NEXT GENERATION

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One of the priority issues facing the different management disciplines today is the critical question of research impact. We are confronted with the question of how to translate the immense potential of knowledge produced by the scientific community into management practices that are useful for transforming organizations and their processes to create value and generate welfare for society.

In management studies, it is not difficult to find works that question the relevance and real impact of research. It is also not uncommon to find evidence from the world of management that the academy is a distant, closed, and self-referential community, incapable of communicating clearly and unleashing the potential of the knowledge it produces. Conversely, the academic community has sometimes developed an attitude of detachment from the community of management practitioners, showing disinterest and identifying the latter as closed in its routines and unable to grasp the innovative impulses of scientific research. This situation often results in a poor dialogue between subjects with little inclination to listen, with the risk of two impenetrable silos with little interaction between them. On the one hand, there is a proliferation of research, articles, and scientific monographs that are mostly read by a few followers; on the other hand, management practices, organizational structures and decision-making routines are defined that are based on the past. They are unable to incorporate the results of scientific research, relying on management traditions, habits and "fashions."

Harmonizing the language and creating platforms that can connect the parties and allow a real dialogue is one of the main issues in facilitating dialogue between distant subjects. Economia & Management was founded by Claudio

Dematté with the aim of creating a bridge between rigorous scientific research and the world of management practice. A journal as a medium and active tool of a school capable of "serving the community," operating in the constant tension between "the need to prepare for the practice of a profession" and "the search for fairer economic and organizational structures." These are the words of our founder, now carved in stone at the entrance to the campus, that inspire our activities.

Recently, the SDA and Bocconi classrooms hosted the Festival of Management, promoted by the Italian Society of Management. With more than fifty events in two days, covering various fields of activity, from public institutions to social initiatives, this is another platform for creating a bridge between the two communities, capable of drawing the attention of the media and society to the best practices of management. The content of the festival, to which Economia & Management contributes as a media partner, will live on in future issues of the journal and in online columns, with the aim of conveying and deepening the ideas, insights, and examples that more than two hundred experts, colleagues and journalists discussed during the festival.

We need bridges and mutual learning between the management and academic communities, as the article by Nic Beech, Paul Hibbert and Katy Mason invites us to do. Creating impact also means challenging the scientific research model and the business model of researchers, innovating, and finding new ways to serve the community. In this challenge, it is crucial to create continuous opportunities for exchange and to activate new ways of mutually nurturing academic research and management practice. Herman Auginis, Past President of the Academy of Management, opening the proceedings of the SIMA conference at Bocconi, posed a question to the audience of academics: "How many of you, before defining research questions or hypotheses for new research, actually engage with managers by formulating sets of hypotheses relevant to management practice?" An easy way to bring the two communities closer together and activate a constructive dialogue is to understand the real needs and priorities of management. In this process, it is not enough to involve a few individuals from both communities, but it is necessary to bring on board younger colleagues who should be encouraged to focus on relevant and impactful research from the PhD level onwards. At the same time, there is a need to rethink the ways in which professors and research quality are evaluated (VQR) and accredited. The issue of impact and utility for the management community and society at large needs to be integrated.

Universities, business schools, research centers and scientific societies in the impact perspective should be considered as elements of the system and serving society and not as impenetrable ivory towers. This journal, the Festival of Management and many other similar initiatives are small signs that indicate the clear will of the university, business schools and scientific societies to take up the challenge of impact in a decisive way.

That is why it is important, first of all, to be close to the new generations (of scholars and managers) in order to train them properly. We also need to be close

to the actors of the economic system (managers, entrepreneurs, and institutions) in order to activate a process of continuous learning and to adapt skills to the challenges we face today, which we have summarized in the podcast linked to this issue. There are five main challenges: first and foremost, understanding the needs of demand; grasping the major geopolitical shifts that create instability in supply chains; harnessing the opportunities of digital, big data, and AI; transforming the business model to a truly socially and environmentally sustainable approach; and developing authoritative and inclusive leadership to serve organizations and teams. In short, we must meet the grand challenge of innovation for business growth and national prosperity in a way that makes the growth of debt sustainable. It is therefore essential to develop research that answers the big questions of companies and economic actors, and that can provide management with new perspectives and concrete, implementable solutions. This is the future that awaits our journal, which has always been open to discussion with the world of business, institutions, and public administration.

For this reason, the journal is being restructured in line with its renewed idea of bridging the gap between rigorous scientific research and the world of management. That's why, in each issue, we offer a **Focus**, a series of articles that provide a comprehensive view of a current phenomenon; articles written by academic experts in the **Science** and **Themes** sections – the former specifically dedicated to peer-reviewed articles – to provide insights into topics of relevance and current interest to managers, ensuring that our disciplines move forward while maintaining the impact of academic research; a **Visual Reading**, to provide a quick, at-a-glance update on some of the latest research from our academic community; a series of online columns (E&M Plus) on topical issues for management, curated by top colleagues from different fields: *Finance* (Andrea Beltratti and Alessia Bezzecchi), *Economics and Markets* (Donato Masciandaro and Gianmarco Ottaviano), *Growth and Innovation* (Gianmario Verona), and *Sustainability* (Sylvie Gulard, Francesco Perrini and Stefano Pogutz). In addition, in-depth articles will alternate in the *Management Tips* and *Opinions and Interviews* columns, where many actors of the Festival of Management will contribute with editorials and interventions. Also inaugurated is a column dedicated to the best doctoral theses, reserved for the next generation of researchers, with the aim of summarizing some of the research carried out by young scholars at the end of their PhD.

The first issue of this renewed edition of Economia & Management opens with a focus on one of the key issues for the sustainability of our planet: the management of blue ecosystems. The Focus, edited by Francesco Perrini and Stefano Pogutz, examines the role of the ocean and the deep-sea play in our ecosystem. It's an immense resource that must be protected and from which considerable value can be extracted by adopting a truly sustainable approach. Indeed, the protection of the ocean is fundamental to the sustainability of our planet.

Two articles in this issue focus on current financial topics. First, Stefano Caselli, Dean of SDA Bocconi, looks at the key role of the big banks in the context of the single capital market at European level, launching the great challenge of

venture capital to support real growth in European economies, which today are desperately looking for new ways to develop, including to support the growing burden of debt. Roberto Ruozi addresses the issue of corporate over-indebtedness and proposes new forms of financing linked to factoring and private credit as innovative ways to support business growth and solutions to meet financial needs.

In this issue we also address one of the most topical issues in our discipline, that of generative artificial intelligence, with two contributions by Salvio Vicari and Sergio Sciarelli. The first deals with the ethics of AI, proposing a hybrid model capable of creating ethical systems in a top-down approach (*ethics by design*) and, at the same time, promoting ethically grounded learning in a bottom-up approach (*ethics by learning*). The second emphasizes the fundamental contribution of generative AI make to management, arguing the importance of any change taking place within a context of ethical rules capable of protecting individual privacy, in order to decrease the privacy concerns that could be an obstacle to the adoption and diffusion of these new technologies.

The aforementioned paper by Nic Beech, Paul Hibbert and Katy Mason, leaders of the British Academy of Management, addresses the issue of the impact of management disciplines and proposes an insightful four-step model for ensuring that academic knowledge generation translates into good management practice. Indeed, the goal is precisely to build a bridge of "mutual learning" between the academic and management communities so that academic research becomes increasingly impactful.

Alessandro Zattoni, current president of the European Academy of Management, questions the existence of a European management model and urges institutions, policy makers and business schools to use common roots to build organizations and companies inspired by a European management model. Giuseppe Bertoli and Bruno Busacca examine the evolution of marketing in a sustainable and digital context, highlighting the discipline's critical role in helping customers adopt sustainable behaviors and products. Valentina Fornari's paper on the hearing aid market provides a marketing perspective on a growing sector, capable of radically affecting the quality of life of its customers, providing functional benefits, but above all emotional and social benefits. In order to bridge the gap between potential and actual market, the role of trust between brands, salespeople and customers is the key building block for development in this market, as in other similar sectors.

Perhaps the attempt to improve understanding between the academic and management communities also requires bridging a gap, filling it with mutual trust, and improving attunement for more effective understanding. This in turn will certainly bring functional benefits, but also emotional and social benefits.

Enjoy the read!

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POGUTZ · PERRINI
PACHNER · SARDÀ
FUMAGALLI

A NEW CHALLENGE FOR ALL
PROTECTING THE OCEAN FOR A SUSTAINABLE PLANET

The year 2023 will be remembered not only as one of the most critical years for the climate crisis but also as the year when United Nations Secretary-General António Guterres declared a state of emergency for the health of the ocean. The iconic cover of Time Magazine[1], which featured a special issue dedicated to the ocean titled "The Most Important Place on Earth," serves as a stark reminder that safeguarding this resource is an absolute necessity. Faced with anthropogenic pressures, the marine ecosystem plays a critical role in maintaining the stability of the planet and providing services essential to our survival and well-being.

MARINE AND COASTAL ECOSYSTEMS//ANTHROPOGENIC THREATS//BLUE ECONOMY//BLUE NATURAL CAPITAL//NATURE-BASED SOLUTIONS (NBS)

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The health of the ocean is in critical condition, and it is deteriorating at a rate and in ways scientists say are unprecedented in the history of our planet. Huge amounts of plastics and chemicals are dumped into the environment every year in all parts of the world. Overexploitation of fish stocks has pushed fisheries of several species beyond the threshold of sustainability, with serious implications for the proper functioning of food chains and the integrity of the ocean floor. Acidification, stemming from the substantial volumes of carbon dioxide produced by industrial and consumer activities, as well as the reliance on fossil fuels, is increasing rapidly, resulting in profound impacts on marine fauna and flora. Furthermore, regarding rising temperatures, it is worth noting that in August the European Copernicus measuring station recorded an increase in sea surface temperature of more than

1. "The Most Important Place on Earth," Time Magazine, special issue, September 4, 2023.

0.5°C compared to the average for the period 1990-2020. Table 1 provides a brief overview of the main threats to marine and coastal ecosystems.

In summary, despite the fact that ocean protection is one of the goals of the United Nations 2030 Agenda (SDG 14, *Life Below Water*), the viability of marine and coastal ecosystems is in steep decline and the issue of protecting their biodiversity has been treated as secondary to the other goals. To meet this challenge, the alarm sounded by the scientific community must be matched by a rapid institutional response. Above all, concrete action must be taken to engage the business and financial sectors in channeling knowledge and resources towards finding new, more sustainable technological and organizational solutions.

This article is the first installment of a four-part review aimed at analyzing the ocean challenge and its implications for the development of a blue economy[2].

The research is featured in a new publication by the One Ocean Foundation, *Business for Ocean Sustainability, Third Edition: Seizing the Blue Opportunity* (One Ocean Foundation et al., 2023). This publication is part of a project encompassing multiple papers that delve into the health of marine and coastal ecosystems and, more specifically, the relationship between business and the ocean (One Ocean Foundation et al., 2020).

A distinguishing feature of the approach taken is the recognition that addressing the challenge of protecting this resource requires adopting a broader perspective than what is typically observed in the *ocean economy*.

More than 90 percent of the pressures on natural "blue" capital – including plastic and other chemical pollution, as well as greenhouse gas emissions causing issues such as rising temperatures, acidification, and eutrophication – do not come from economic activities that occur directly on the ocean.

The industries that rely on the ocean as a primary resource to create value, and that are typically considered part of the ocean economy – such as coastal tourism, fishing, offshore extraction of oil, gas, and other mineral resources, and maritime transport – are undoubtedly significant. However, their contributions to influencing the health of the ocean are only partial when compared to production and consumption processes that occur on land, including agriculture, food and beverage production, transportation, energy production, and chemical industries.

To effectively address the challenge of protecting the ocean, it is therefore imperative to adopt a broader and more holistic perspective. This entails not only observing the activities within these ecosystems but also examining and analyzing all industrial and service activities that exert "indirect" pressures on the marine and coastal environments.

The research aimed to investigate how companies are addressing the challenges facing the ocean, assessing levels of awareness, integration into sustainability strategies, governance responses, innovation, and adoption of specific reporting forms. To achieve this, the working group employed an innovative methodology guided by the use of artificial intelligence (GenAI), analyzing over 300,000 pages of documents related to approximately 2,500 companies, representing more than 70 percent of the world's market capitalization. However, before delving into these aspects of the study, it seems necessary to define what "blue" natural capital is, what its distinctive aspects are, and why it is so important to protect the health of the ocean.

2. There are numerous definitions of the concept of the blue economy, and the term is often used with some ambiguity. The One Ocean Foundation in its research papers, distinguishes between the terms "ocean economy" and "blue economy." The former generally refers to all economic activities related to the ocean, including the fishing industry, maritime transportation, coastal tourism, and the extraction of marine resources such as oil and gas. Thus, with the concept of the ocean economy, the focus is primarily on maximizing the economic benefits derived from the exploitation of marine and coastal resources. On the other hand, the blue economy stands for an economy that utilizes marine resources and ecosystem services produced by the ocean in a sustainable and equitable manner to ensure well-being and prosperity.

TABLE 1. THE MAIN THREATS TO MARINE AND COASTAL ECOSYSTEMS

MAIN THREATS	IMPACTS ON OCEAN HEALTH AND PROVISION OF ECOSYSTEM SERVICES
WARMING	According to the IPCC, ocean surface temperatures have increased by an average of 0.88°C between 1850-1900 and 2011-2020, with an increase of 0.60°C since 1908 (IPCC, 2022). Ocean warming is the primary driver of sea level rise and oxygen depletion, resulting in significant consequences for marine and coastal ecosystems, including the loss of habitats and biodiversity.
ACIDIFICATION	Since the Industrial Revolution, ocean surface acidity has increased by approximately 30 percent and is projected to increase another 100-150 percent by the end of the 21st century (NOAA, 2020). As acidity increases, the ocean's capacity to absorb CO2 and regulate climate change decreases. In addition, acidification can have adverse effects on marine and coastal ecosystems, including corals.
OVERFISHING	Unsustainable fishing practices, such as overfishing, contribute to the depletion of fish stocks by altering trophic webs and reducing populations of marine species. According to the FAO, the percentage of fish stocks within biologically sustainable levels fell to about 65 percent in 2019, marking a decline of more than 25 percent from the 90 percent level recorded in 1974. The use of certain fishing gear, particularly trawl nets and dredges, disrupts the integrity of the seabed and associated habitats, further impacting the carbon stored in marine sediments (FAO, 2022).
POLLUTION	Pollution from oil and chemical spills, as well as from litter, including the practice of discarding fishing nets, has significant consequences for water quality and marine biodiversity. It is estimated that more than 17 million tons of plastic ended up in the ocean in 2021 alone, a figure that is expected to double or triple by 2024. Plastic is presently the most prevalent type of waste in the ocean, accounting for 80 percent of all marine debris detected from surface waters to deep ocean sediments[3].
EUTROPHICATION	Eutrophication is a phenomenon resulting from the release of excessive amounts of nutrients, primarily nitrogen and phosphorus, into the aquatic environment due to intensive forms of agriculture and livestock production. The heavy use of fertilizers or the discharge of organic matter into the aquatic environment through wastewater contributes to excessive algal growth, typically occurring in estuaries or coastal waters. The decomposition of algae leads to oxygen depletion, endangering the lives of fish, crustaceans, and other species, resulting in "dead zones." According to the United Nations, the number of dead zones increased from 400 to 700[4] between 2008 and 2019.

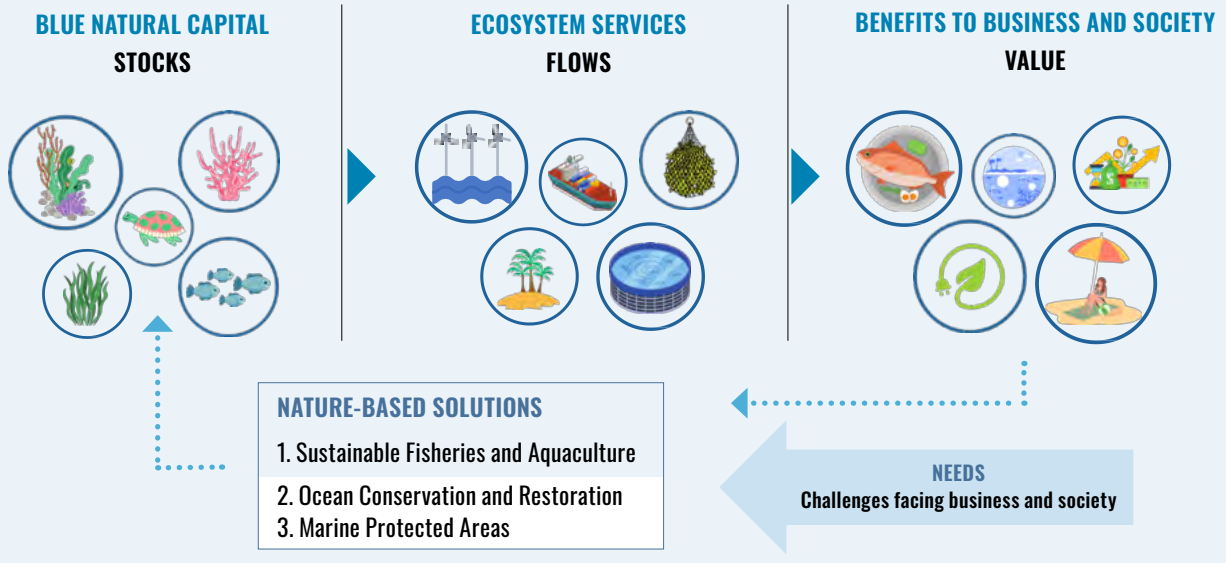
3. UNESCO, *Ocean Literacy* Portal, oceanliteracy.unesco.org
4. United Nations Statistics, *Life below water,* (SDG 14), unstats.un.org

THE BLUE NATURAL CAPITAL

Natural capital is defined as the set of biotic (animals and plants) and abiotic (minerals, water, air) resources essential to our survival and well-being. These resources can be renewable, such as food, water, forests, and soil, or non-renewable, such as fossil fuels and minerals. The former can be regenerated if used sustainably, while the latter require formation times incompatible with economic cycles. Among the existing types of natural capital, blue natural capital refers to marine and coastal resources and ecosystems, including lagoons, beaches, coral reefs, marshes, mangrove forests, and the various species that inhabit these environments.

From an economic perspective, marine and coastal ecosystems provide a range of services that enable various economic activities. The value of these activities, measured as income flows generated by the sectors that make up the ocean economy, is estimated at $5.2 trillion, surpassing the GDPs of both Germany and Japan (O. Hoegh-Guldberg et al., 2015). Even more significant is the value of blue natural capital, estimated at $24 trillion (WWF and Metabolic, 2020), a magnitude that is much more complex to quantify than merely considering the economic benefits it generates. In fact, quantifying natural resource stocks and ecosystem services is challenging due to their high interdependence, dynamic nature, non-linearity, and evolution over time. Consider the complexity of calculating the value of ocean currents, which serve multiple functions: they affect local climates, impacting agriculture and tourism; they determine nutrient distribution, vital for marine life and phytoplankton growth, thus supporting fisheries; they shape coastlines, affecting recreational activities; and they influence navigation, either facilitating or hindering travel and shipping.

FIGURE 1. THE BLUE NATURAL CAPITAL CYCLE



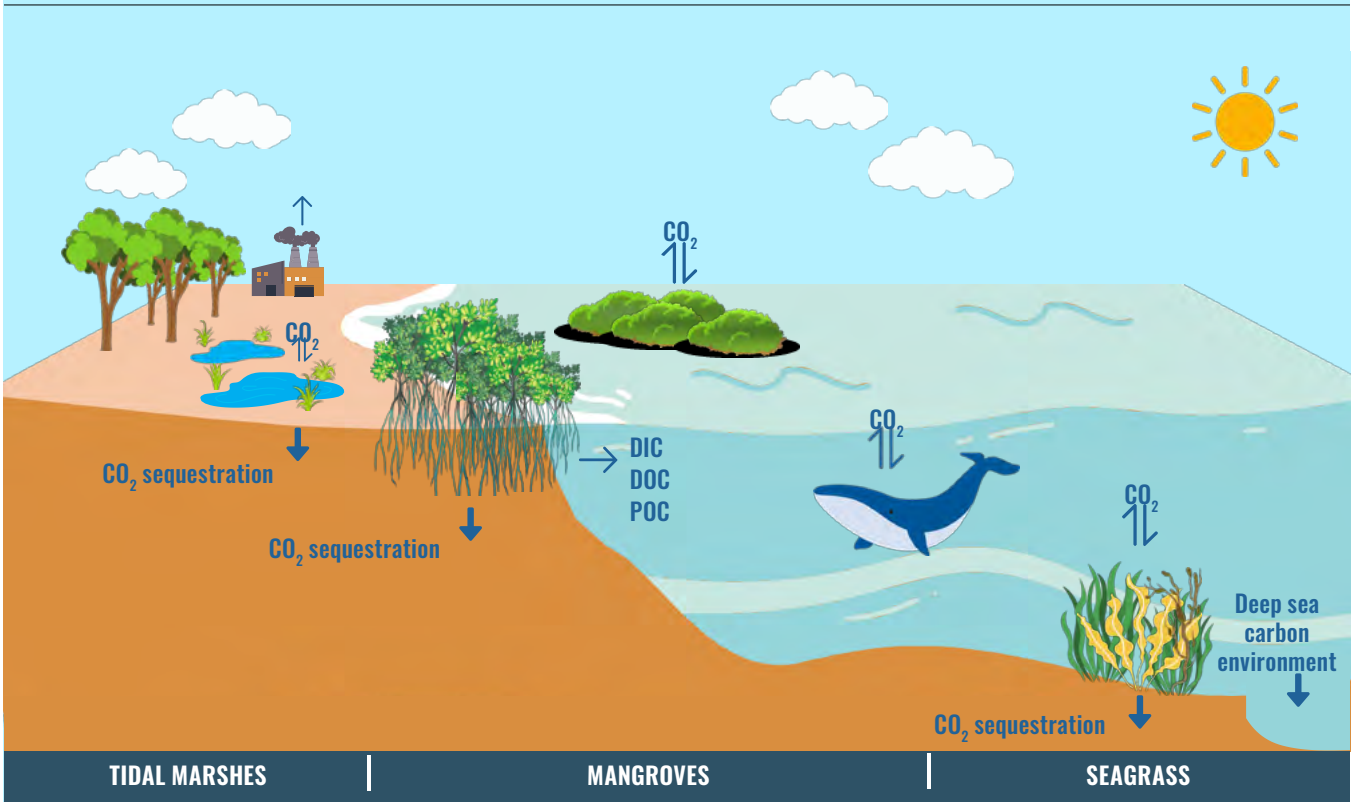
Source: Authors' elaboration

Figure 1 illustrates the blue natural capital cycle.

The ocean and all marine and coastal ecosystems comprise numerous types of resources that provide services used by individuals and businesses for a variety of economic and recreational purposes. These include a) provisioning services, such as the production of fish, shellfish, or crustaceans used by the fishing industry or aquaculture; b) cultural services, essential for tourism and recreation; and c) regulating services, such as climate regulation and coastal erosion control. For instance, mangroves play a pivotal role in mitigating the risk of flooding by safeguarding coastlines through water absorption, acting as a physical barrier, filtering sediment, and dampening waves. Consider again the ocean's role as a thermostat for regulating the planet's temperature: about 90 percent of atmospheric heat is absorbed by the sea. Finally, there are supporting services, such as the creation of important habitats for fauna and flora reproduction, or the nutrient cycle, a process vital for maintaining the ecological balance and productivity of marine and coastal ecosystems. This cycle involves the decomposition of organisms and the recycling of substances like nitrogen, phosphorus, and other essential elements.

Among the services provided by marine and coastal ecosystems, one particularly important aspect is their ability to absorb and store significant amounts of carbon for long periods, up to 30 percent of the carbon produced annually by human activities. This process can occur either directly, through the dissolution of CO_2 in water, or indirectly, when carbon is sequestered during the process of photosynthesis by mangrove forests, phytoplankton, algae, seagrass, or other

FIGURE 2. CO_2 STORAGE AND EXCHANGE BETWEEN MARINE AND COASTAL ECOSYSTEMS.



Source: Authors' elaboration

* Note: DIC: dissolved inorganic carbon; DOC: dissolved organic carbon; POC: particulate organic carbon.

photosynthetic organisms. These organisms are then consumed by fish, ultimately resulting in organic matter being buried in the ocean depths (refer to Figure 2).
Some studies estimate that, on average, marine and coastal ecosystems can store up to five times as much carbon per hectare as an equivalent area of tropical forest (WEF, 2022).

Large cetaceans play a key role in this process (J. Roman et al., 2014). Whales store carbon in their bodies throughout their lives, and when they die, their carcasses are deposited on the ocean floor, where the carbon is then layered into marine sediments.
Recent studies suggest that mysticetes, such as humpback and sperm whales, can store up to 33 tons of CO_2 (R. Chami et al., 2019), effectively removing carbon from the atmosphere for centuries.

On one hand, the interaction of large cetaceans with phytoplankton contributes to the movement of carbon into deeper layers of the ocean through a phenomenon known as whale pumping. On the other hand, through the trophic cycle, whales have a "multiplier effect" on the growth of phytoplankton populations, which, in turn, play a key role in converting carbon dioxide to oxygen through photosynthesis. Research indicates that phytoplankton capture approximately 40 percent of the CO_2 produced each year, equivalent to four times the area of the Amazon rainforest (R. Chami et al., 2019).

Anthropogenic threats such as unsustainable fishing (e.g., "ghost nets," floating devices such as Fishing Aggregating Devices, trawling), plastic pollution, and noise pollution endanger whale populations.

To date, approximately 90 percent of the world's mysticetes population has been lost. Protecting whales is not only about safeguarding the ocean's capacity to contribute to climate stability but also recognizing the indispensable role that nature and its conservation must play on the journey toward planetary sustainability.

NATURE-BASED SOLUTIONS FOR OCEAN CONSERVATION

The existence of a strong interdependence among nature's health, ecosystem services, economic activities, and our well-being underscores the imperative need to conserve the assets that constitute blue capital for our future prosperity.
As pointed out by Carlos Duarte, a leading expert in marine ecology who contributed to the publication resulting from the project with the One Ocean Foundation, about 38 percent of greenhouse gas emissions come from the destruction of ecosystems. This underscores the importance of recognizing that about one-third of the solutions to the environmental crisis must involve ecosystem restoration.

Nature-based solutions (NBS) encompass various strategies utilizing ecosystems to address climate, biodiversity, and sustainability challenges (The Nature Conservancy, 2021). These solutions involve actions to restore degraded or compromised natural habitats and initiatives to sustainably manage and conserve them, ensuring the resilience necessary for continued provision of the ecosystem services upon which our well-being and that of our communities rely. Within NBS, a specific typology concerns the health of marine and coastal ecosystems. Amidst the climate crisis, multiple studies have demonstrated that the coexistence of terrestrial, marine, and coastal NBS yields synergistic effects that reinforce the capacity to mitigate the greenhouse effect, exemplified by blue carbon solutions preserving the ocean's ability to sequester CO_2.

The United Nations Intergovernmental Panel on Climate Change has identified and described three types of ocean related NBS (M. Lecerf et al., 2021):

- ***Measures for the sustainable management of fisheries.*** These encompass actions directly impacting the fishing industry, such as the establishment of quotas (a limit on allowable catch within specific geographic areas or for specific species, distributed among various

stakeholders to ensure long-term sustainability), increasing mesh sizes of nets, and raising minimum catch sizes. These measures aim to protect species from overexploitation of marine resources and safeguard the livelihoods of communities reliant on these species.

- ***Measures for marine conservation and restoration.*** These solutions involve the restoration and protection of ecosystems such as mangroves, salt marshes, Posidonia meadows and kelp forests. They contribute to biodiversity conservation, shield coastal communities from flooding and erosion risks, and offer effective means of carbon dioxide removal from the atmosphere (*blue carbon*). Restoring coral reefs is also vital for addressing biodiversity loss due to climate change.

- ***Marine protected areas (MPAs).*** Properly designed and managed MPAs, particularly those excluding fishing activities, can alleviate stressors on ecosystems, aiding in biodiversity protection, conservation, and restoration, as well as climate change mitigation. Presently, MPAs cover less than 8 percent of the ocean, with less than 3 percent under high or full protection (IPCC, 2022). Hence, the scientific community advocates for more ambitious targets, including the protection of at least 30 percent of land and coastal, marine, and inland waters by 2030 (30x30 goal).

At the conclusion of the 15th Conference of the Parties to the United Nations Convention on Biological Diversity in December 2022, a global biodiversity agreement known as the Kunming-Montreal *Global Biodiversity Framework* (GBF), was adopted in response to scientists' calls (UN Environmental Program, 2022). Regarding the ocean, signatory countries committed to designating 30 percent of both land and marine areas as protected natural areas, as well as enhancing the resilience of marine ecosystems through mitigation, adaptation, and environmental disaster risk reduction measures

by 2030. A significant advancement in marine conservation policy is the adoption of the *High Seas Treaty* in March 2023, marking the culmination of over a decade of negotiations among UN Member States. This treaty establishes, for the first time, regulations for the conservation and sustainable use of marine biodiversity beyond national jurisdictions. The new treaty represents a substantial contribution to the implementation of the Kunming-Montreal GBF and its commitment to the 30x30 target.

CONCLUSION

While international treaties and binding regulations provide crucial momentum for successfully addressing the ocean challenge, active engagement from the business and finance communities is equally essential, mirroring efforts in addressing the climate challenge.
The initiation of a virtuous and sustainable cycle begins with fostering awareness within industries and the investment community, followed by the adoption and dissemination of appropriate strategic and organizational responses, leading to

the exploration of "blue" opportunities through the development of cleaner technologies and more sustainable business models. In this context, solutions that restore, conserve, and promote the sustainable management of blue natural capital – known as nature-based solutions – will play a decisive role. Only by embarking on this path can we enhance the resilience of our planet and promote a sustainable future.

The following articles will delve into the outcomes of the third edition of the *Business for Ocean Sustainability* research[5]. They will begin by offering an overview of the level of attention companies are dedicating to the challenge of marine and coastal ecosystems. Subsequently, an analysis of the strategic responses and key innovations being implemented will be presented, exploring whether these new solutions offer opportunities for value creation and competitive advantage, alongside the evident environmental benefits.

Finally, a detailed examination will be provided of a specific initiative, the *Ocean Disclosure Initiative*, established in 2019 through collaboration between the One Ocean Foundation, SDA Bocconi, McKinsey & Co, and CSIC. The project aims to develop a framework for gathering information and data from companies across all industries (not limited to those operating in the ocean economy) regarding their interactions with marine and coastal ecosystems, and to make this information transparent and accessible to relevant stakeholders and the financial community.

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5 A project supported by the One Ocean Foundation and carried out in collaboration with SDA Bocconi, McKinsey & Co, and CSIC.

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BEYOND AWARENESS
CALLING COMPANIES TO ACTION

The health of the ocean is vital for our survival and well-being. Over 40 percent of the world's population relies on biodiversity and services offered by marine ecosystems. The ocean supports unique habitats, and the ecosystem services it provides include provisioning, regulating, and cultural services, thus ensuring a fundamental contribution to global social and economic development. While the importance of protecting the ocean is increasingly acknowledged, progress remains slow compared to the growing threats to marine ecosystems. Awareness of the pressures on marine ecosystems is critical, but not sufficient. There is a need to move from awareness to action by taking concrete steps to protect the ocean.

OCEAN ECONOMY//OCEAN SUSTAINABILITY//SUSTAINABILITY REPORTING//SDG14//OCEAN DISCLOSURE INITIATIVE (ODI)

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Despite their importance, marine ecosystems have continued to degrade at an accelerating rate in recent decades. This deterioration underscores the urgent need for radical action to relieve the pressure on our "blue lungs."

Based on the findings of the recently published study, *Business for Ocean Sustainability, Third Edition: Seizing the Blue Opportunity* (One Ocean Foundation et al., 2023), this paper aims to highlight the business focus on ocean protection and assess the level of engagement in various management intervention areas aimed at reducing and mitigating negative impacts on marine ecosystems.

RAISING AWARENESS TO SAVE THE OCEAN

Awareness of the direct and indirect pressures exerted by human activities on the ocean is essential to its conservation. Direct pressures arise from interactions such as oil or mining drilling, trawling, or the direct dumping of plastics into the sea. Conversely, indirect pressures, such as greenhouse gas emissions, land-based plastic runoff, or fertilizer use, originate far from the ocean but still exert a significant impact on marine ecosystems.

Numerous studies confirm that most negative impacts on the ocean stem from activities occurring beyond its immediate vicinity. Companies bear primary responsibility for these pressures, yet they also hold the key to mitigating them.

A primary metric for assessing corporate commitment to ocean protection is the adoption of Sustainable Development Goal SDG14, *Life Below Water*, within the United Nations 2030 Agenda. The United Nations Sustainable Development Agenda and its 17 goals represent a cornerstone of collective efforts to tackle the most pressing global challenges. In particular, SDG14 outlines specific targets for the conservation and sustainable use of ocean and marine resources and serves as a leading indicator of the level of corporate focus on these issues.

To analyze the level of corporate reporting on SDG14, we examined the 2021 annual or sustainability reports from a sample of approximately 2,500 of the world's largest companies by market capitalization across 17 industries. In economic terms, this sample represents a capitalization of around $65 trillion, constituting over 70 percent of global market capitalization. This analysis employed *Natural Language Processing* (NLP) techniques to identify director or window matches of keywords related to reporting on SDG14 within the examined texts. A comparative analysis was then conducted with the findings of a similar study, *Business for Ocean Sustainability. A Global Perspective*[1] (One Ocean Foundation et al., 2023), carried out in 2020. This prior study utilized the same methodology on a sample of 1,664 annual or sustainability reports published in 2019 (Figure 1).

The latest research reveals an increasing corporate commitment to the SDGs across nearly all 17 goals. In 2021, 76 percent of companies demonstrated commitment to at least one SDG, up from 60 percent in 2019.
This trend underscores the growing global recognition of the importance of adopting the Sustainable Development Goals.

However, the analysis also reveals that among the 17 goals, SDG14 is mentioned by only 9 percent of the companies examined, indicating it is one of the least prioritized goals. Companies focus primarily on SDG5, *Gender Equality*, and SDG13, *Climate Action*. This is not surprising, given that climate change and gender equality are prominent environmental and social concerns that businesses have been trying to address for years.
Nevertheless, there is a growing recognition of the importance of the ocean, as evidenced by the rising mentions of SDG14 over time. Indeed, the number of mentions increased from 6 percent in 2019 to 9 percent in 2021, indicating a modest yet increasing awareness. Thus, while the process of raising awareness appears to be consolidating, it is progressing slowly compared to the escalating threats to marine ecosystems and their alarming state.

Focus on SDG14 is particularly high among companies in the ocean economy (Figure 2) due to their direct connection to the marine environment. Of these, 32 percent include SDG14 in their reporting. Following closely are textiles and apparel (24 percent), utilities and energy, and agribusiness (13 percent each). Mention of SDG14 is relatively consistent across the remaining sectors, with an approximate average of 9 percent.

1 A project supported by the One Ocean Foundation and carried out in collaboration with SDA Bocconi, McKinsey & Co, and CSIC.

FIGURE 1. REPORTING ON SUSTAINABLE DEVELOPMENT GOALS (SDGS)

Reporting on Sustainable Development Goals (SDGs)

 # companies mentioning selected SDG/total # companies in the sample, %

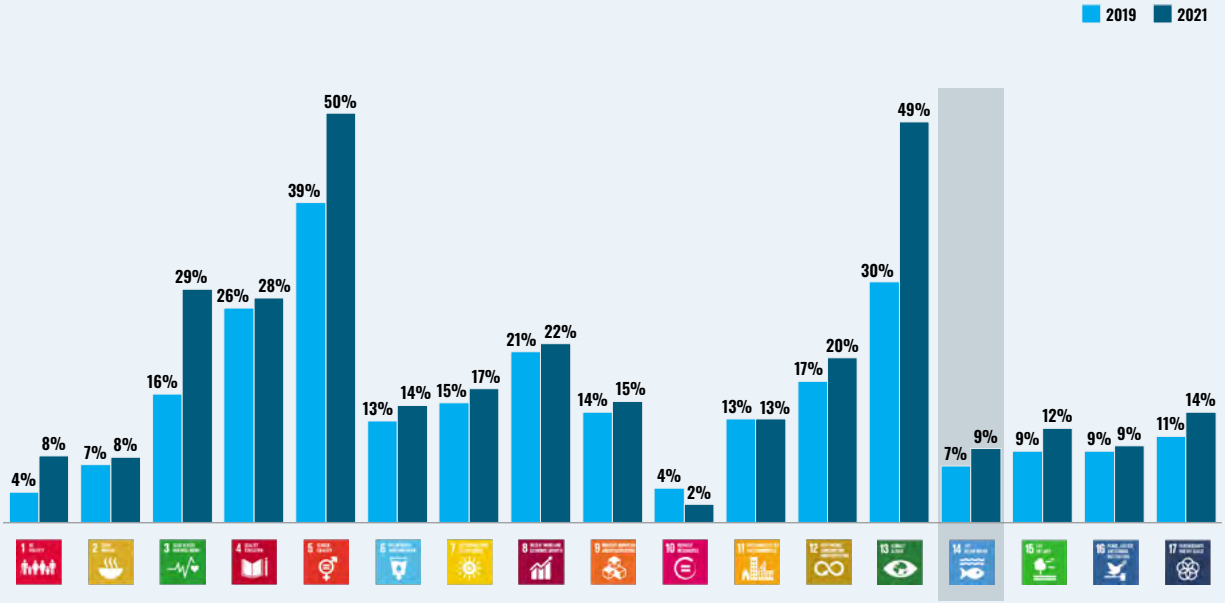
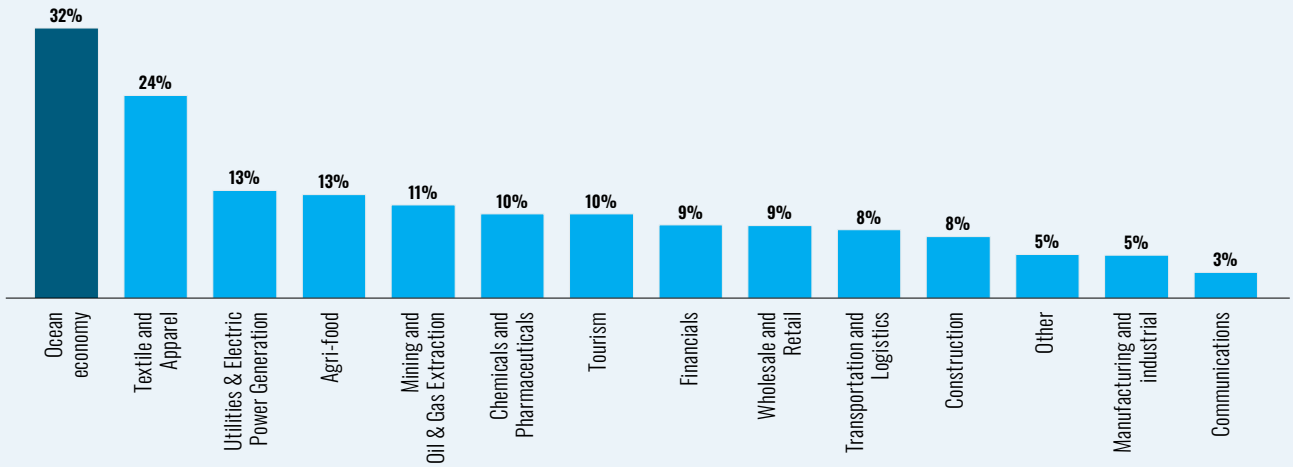


FIGURE 2. REPORTING ON SDG 14 "LIFE BELOW WATER" BY SECTOR

Reporting on SDG 14 "Life Below Water" by sector

# of companies reporting on SDG 14/total # companies in each sector, %



1. Ocean Economy sectors include Maritime Transportation, Fishing and Aquaculture, Ports and Warehousing, Shipbuilding and Repair
2. Other include IT, software and public health companies

Source: Authors' elaboration; Natural Language Processing and lexicometry approach applied on a sample of 2,451 Sustainability or Annual Reports (2021)

FROM AWARENESS TO ACTION TO PROTECT THE OCEAN

Developing and disseminating genuine awareness of the pressures on marine ecosystems is necessary but insufficient for protecting the ocean. Such awareness must be followed by the adoption of appropriate strategic and organizational responses aimed at implementing concrete initiatives to safeguard the ocean.

Our research indicates a slight increase in awareness of the pressures on the ocean and marine environment in recent years, with some companies initiating both direct and indirect actions to mitigate their impact.

To address this second aspect, an analytical model based on Generative Artificial Intelligence (GenAI) was employed. This approach enabled the identification of concrete measures taken by companies to prevent or mitigate their impact on marine ecosystems by examining over 400 sustainability reports from companies across six sectors of particular interest.

Based on the framework established by the *Ocean Disclosure Initiative* (ODI) , the four management dimensions used to measure the level of activation and best practices in ocean stewardship implemented by companies are:

1. ***Governance and policy.*** Assess whether and how companies integrate ocean issues into their policies, and whether the board of directors oversees these issues to translate the company's commitment into formal governance structures and/or initiatives.
2. ***Pressure and risk assessment.*** Examine whether companies systematically analyze the direct and indirect pressures on the marine environment and the risks they face in relation to key marine issues.
3. ***Role and measurement of ocean pressures.*** Examine whether companies have integrated the protection of marine and coastal ecosystems into their long-term strategy by establishing specific ocean-related targets or Key Performance Indicators (KPIs).
4. ***Management activation.*** Focus on activities undertaken to address pressures on marine ecosystems, such as direct mitigation activities related to ocean protection (e.g., certification, ocean-focused innovation, partnerships, engagement, education, and outreach initiatives) and activities yielding indirect benefits (e.g., product, process, and supply chain innovation).

The company activation level was calculated by considering the aforementioned four management dimensions and the eleven actionable initiatives. It ranges from 0 to 100 percent and is the ratio of the number of initiatives undertaken to the total number of actionable initiatives for each company. Our findings suggest that the activation score of the sampled companies is generally low, with an average value of 20 percent (Figure 3). This means that, on average, each company is engaged in fewer than two actionable ocean conservation initiatives, leaving ample room for improvement.

The fishing and aquaculture industry notably shows the highest level of activation, with an average score of 52 percent. This result can be attributed to various factors, including the industry's inherent dependence on natural resources, or the necessity to comply with marine environmental regulations. Other sectors exhibit comparable patterns, with scores closely aligned with or below the overall average, with the exception of the textile and apparel industry, registering a score of 24 percent.

To understand the differences in behavior among individual firms within the same sector, we considered the dispersion of activation scores. The significant dispersion of firm activation across sectors indicates some heterogeneity among firms. The fishing and aquaculture sector displays the greatest dispersion, emphasizing the coexistence of

2 The Ocean Disclosure Initiative (ODI), unveiled by the One Ocean Foundation in September 2021, is the first framework for companies expressly dedicated to reporting and disclosing information related to ocean protection. For more information, visit oceandisclosureinitiative.org

high performers (i.e., firms actively engaged in all or nearly all implementable initiatives to prevent/mitigate pressures on the ocean) and laggards. In contrast, the textile and apparel sector has the lowest dispersion, indicating a more uniform trend.

The activation score is primarily influenced by the management activation dimension, which accounts for 60-90 percent of the total score (Figure 4). Few companies have established structured governance and policies specific to the ocean, implemented risk assessment and analysis processes, or developed procedures to measure impacts on marine ecosystems.

Companies in the fishing and aquaculture sector, by their very nature and characteristics, appear to be leading the way in developing more rigorous ocean governance practices. This includes, for instance, the delineation of board level responsibilities, the implementation of marine stewardship policies, and the inclusion of marine ecosystem protection sections in environmental policies.

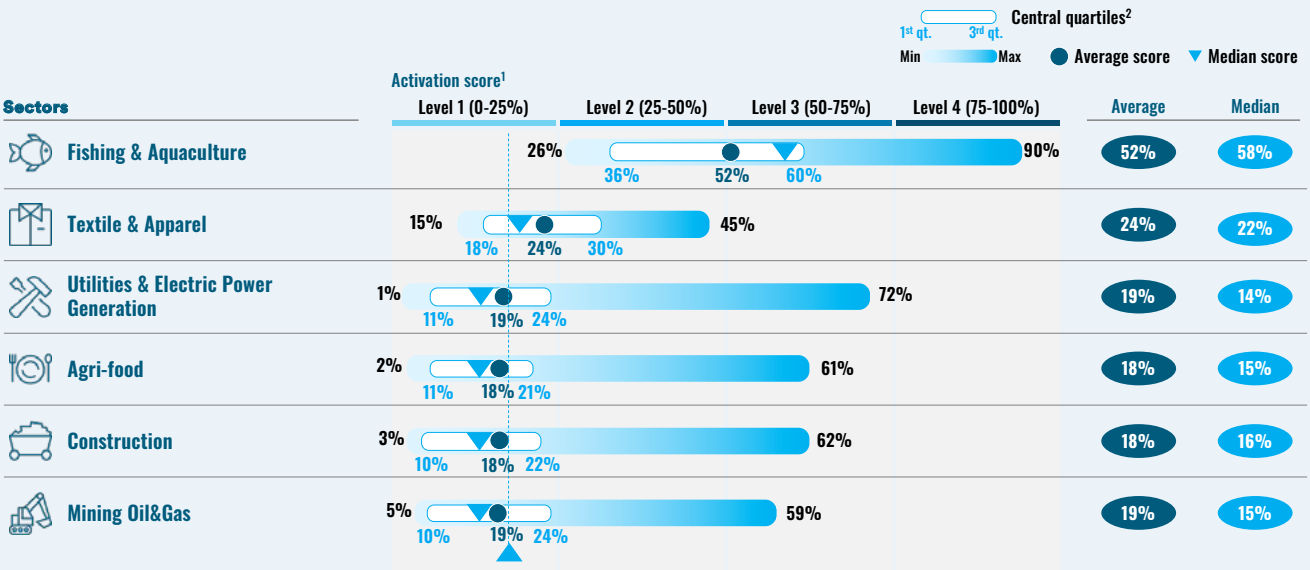
The number of companies *conducting assessments of pressures, dependencies, and risks* related to marine issues is marginally higher in industries more likely to operate in direct contact with the aquatic environment, such as fishing and aquaculture, mining, oil, utilities, and energy. However, the formalization of such risk assessments remains low.

Measuring *corporate impacts on the ocean* through the establishment of KPIs and/or specific targets is relatively common. For example, some companies monitor the release of pollutants that could harm

FIGURE 3. ACTIVATION SCORE'S DISPERSION BY SECTOR

Activation score's dispersion by sector

Dispersion, average and median activation score by sector



1. The activation score is calculated on 4 ODI managerial dimensions: Governance and policies; Pressure, dependence and risk assessment; Role and measurement of ocean pressure; Managerial activation and 11 actionable initiatives: Ocean policy; Board oversight on ocean-related issues; Risk analysis on ocean-related issues; Ocean-related Targets and KPIs; Innovation for the oceans; partnerships; engagement, education & awareness initiatives; Ocean-related certifications; Product innovation; Process innovation; Supply chain innovation
2. Central quartiles include the 2nd and the 3rd quartiles, collecting the 50% of companies scores

Source: Authors' elaboration; GenAI approach applied on a sample of 424 Sustainability or Annual Reports (2021) of companies belonging to 6 sectors (Textile & Apparel, Fishing & Aquaculture, Construction, Agri-food, Mining Oil & Gas, Utilities & Electric Power Generation)

marine biodiversity and habitats, while others commit to conducting regular inspections of the marine areas in which they operate.

The *management activation* dimension was assessed through two sub-dimensions: one directly linked to the ocean and one indirectly linked to the ocean. The former comprises initiatives specifically aimed at promoting marine protection, while the latter includes initiatives not explicitly aimed at ocean protection but with positive effects on it. Our analysis reveals that while all sectors implement measures indirectly aimed at mitigating pressures on marine ecosystems, only the fishing and aquaculture sector extensively implements actions directly aimed at their conservation.

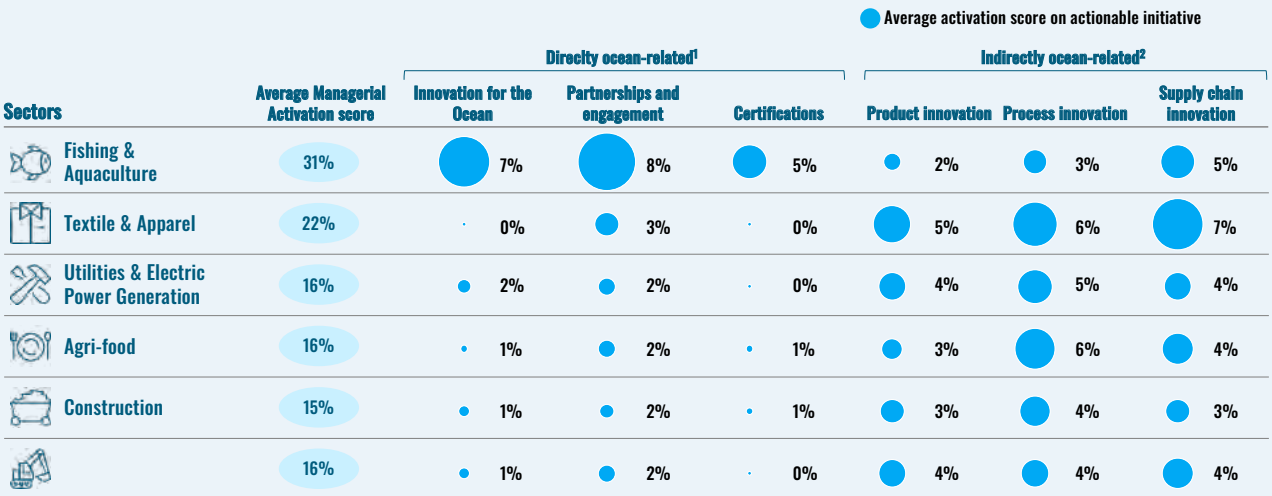
THE IMPORTANCE OF IMPLEMENTING DIRECT AND INDIRECT INITIATIVES

Using generative AI, our analysis identified actions that are directly or indirectly related to ocean protection. The former include actionable initiatives that companies are taking to promote ocean sustainability, while the latter include initiatives that are not specifically designed for ocean sustainability but that still have a positive impact. Our analysis shows that while all sectors take actions indirectly linked to the ocean to alleviate their own environmental pressures and mitigate impacts on marine ecosystems, only the fishing and aquaculture sector extensively engages in actions

FIGURE 4. ODI DIMENSIONS' CONTRIBUTION TO AVERAGE ACTIVATION SCORE BY SECTOR

"Managerial Activation Dimension" average activation score distribution by action type

# of actions classified as "Managerial activation" achieved/total # of actionable initiatives (11) by sector, %



1. Directly ocean-related actions are strictly related to the mitigation of pressures on the Oceans and marine ecosystem
2. Indirectly ocean-related actions are not strictly related to the Ocean dimension but have an indirect beneficial action on mitigating the pressures on the Ocean (e.g., GHG emission reduction, reduction of plastic use on land). Exception for Fishing and Aquaculture, where product, process and supply chain innovations can be considered as actions with direct impact on the Oceans

Source: Authors' elaboration: GenAI approach applied on a sample of 424 Sustainability or Annual Reports (2021) of companies belonging to 6 sectors (Textile & Apparel, Fishing & Aquaculture, Construction, Agri-food, Mining Oil & Gas, Utilities & Electric Power Generation)

directly related to the ocean.

With respect to *management actions directly related to ocean protection*, several companies are forging partnerships to prevent or mitigate their impacts. For example, many companies in the fashion industry have signed the Fashion Pact, a global coalition dedicated to protecting the ocean, among other objectives. Others work with NGOs and form or join industry coalitions to fund projects that protect or restore marine biodiversity and habitats. These projects may include initiatives to restore mangrove forests, coral reefs or Posidonia seagrass beds.

There are also outreach and collaboration programs with research centers aimed at raising awareness of the ocean and disseminating information about its health. The fishing and aquaculture sector, with over 80 percent of companies engaged in ocean-focused partnerships, is particularly committed to fostering collaborations to promote innovation and new technologies, such as monitoring tools.

Regarding *initiatives indirectly linked to marine protection*, notable examples include *product innovations* involving the use of recycled or recyclable materials, the adoption of life cycle assessment strategies, and eco-design choices. For instance, the textile industry is particularly focused on the use of recycled or recyclable materials and on efforts to reduce the use of plastics within its products.

In terms of process innovation, circular economy practices, waste reduction, and eco-efficiency improvements are becoming increasingly important, particularly in the textile and agribusiness sectors. Nearly all companies in all sectors are monitoring greenhouse gas emissions, the reduction of which is critical to mitigating anthropogenic pressures on the ocean. Furthermore, companies are taking a number of steps to improve the monitoring of *sustainability in their supply chains*. These measures include initiatives to improve the traceability of raw materials and purchased products, as well as efforts to improve supplier qualification, often through the adoption of evaluation criteria based on ESG (Environment, Social, Governance) factors. The majority of companies in the sample also calculate Scope 3 greenhouse gas emissions (indirect emissions along the value chain) and have implemented sustainable transportation measures.

GREATER MATURITY, GREATER ACTIVITY

To conclude our analysis, Figure 5 highlights the relevance of the correlation between companies' maturity regarding ocean-related matters, as indicated by their activation level, and the scope and depth of initiatives undertaken. In essence, companies with higher activation levels (levels 3-4) tend to structure ocean governance more comprehensively and develop more articulated risk assessment processes. They also prioritize a broader range of initiatives, encompassing long-term strategic planning with defined objectives, targets, and KPIs to evaluate the effectiveness of the adopted initiatives.

Conversely, companies scoring lower on the activation scale (levels 1-2) tend to focus mainly on management actions. They may set targets and KPIs in a limited manner and address various issues without a clear strategic vision or governance framework.

Our analysis shows that protecting the ocean requires a profound commitment from the business sector. Awareness of the pressures on marine ecosystems is just the initial step in the process. Companies need to be proactive in adopting governance strategies and policies to address the various challenges, assess the associated risks, clearly define their role, measure pressures on the ocean, and ultimately take action through tangible interventions.

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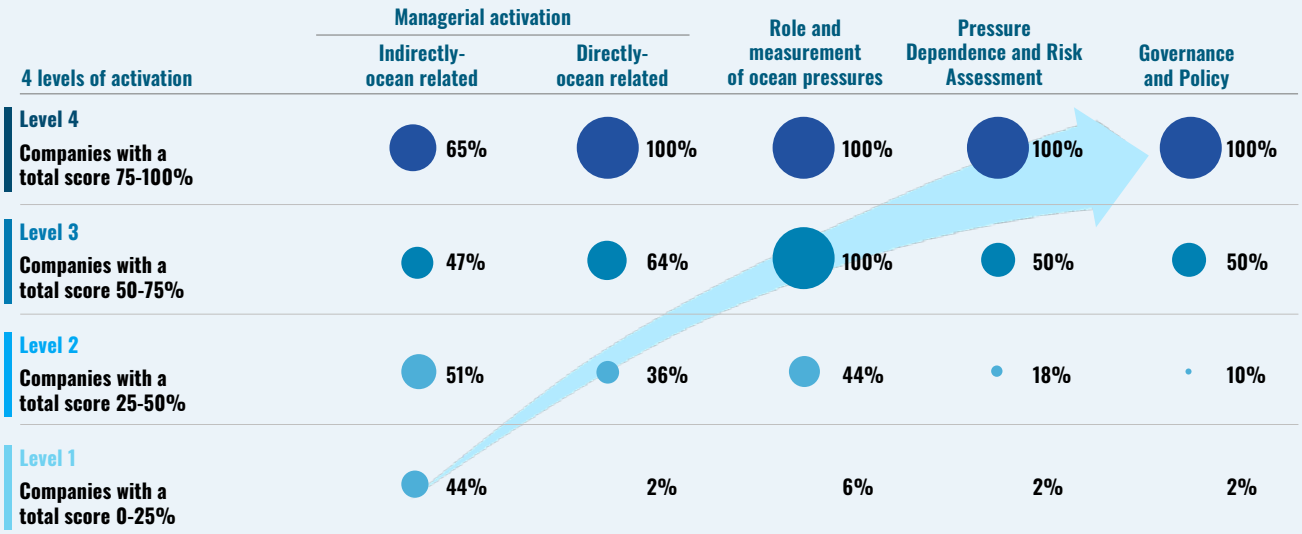
FIGURA 5. ACTIVATION PERFORMANCE BY ODI DIMENSIONS

Activation performance by ODI dimensions

# of actions achieved in each ODI dimension/total # actionable initiatives available in each ODI dimension by level of activation, %



Source: Authors' elaboration: GenAI approach applied on a sample of 424 Sustainability or Annual Reports (2021) of companies belonging to 6 sectors (Textile & Apparel, Fishing & Aquaculture, Construction, Agri-food, Mining Oil & Gas, Utilities & Electric Power Generation)

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THE FUTURE OF THE BLUE ECONOMY
FROM RISK MITIGATION TO BUSINESS OPPORTUNITY

This paper examines the often-overlooked risks that businesses pose to coastal and marine ecosystems, highlighting both direct and indirect pressures on the ocean. While many companies take a reactive stance toward ocean conservation, a growing number are recognizing the potential for proactive engagement. The analysis shows that engaging in ocean restoration efforts not only mitigates risk, but also unlocks significant business opportunities, ranging from sustainable fisheries management to innovative digital technologies.

BLUE ECONOMY//SUSTAINABILITY//BLUE BUSINESS OPPORTUNITIES//NATURE-BASED SOLUTIONS (NBS)//CLEAN TECH

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Often unaware of the risks associated with ecosystem degradation, businesses exert both direct and indirect pressures on the ocean. The diverse and interconnected nature of these pressures makes the protection of coastal and marine ecosystems a key challenge for most companies, regardless of their sector. However, while marine restoration activities present significant challenges, they can also provide solid business opportunities that create value for all stakeholders while addressing global threats to our current and future well-being.

Drawing on insights from recent research, partly using Generative Artificial Intelligence (GenAI) (One Ocean Foundation et al., 2023), the purpose of this paper is to analyze some of the opportunities related to the protection and restoration of marine ecosystems that remain largely unknown to most companies.

The results of the study, which analyzed the behavior of approximately 2,500 of the world's

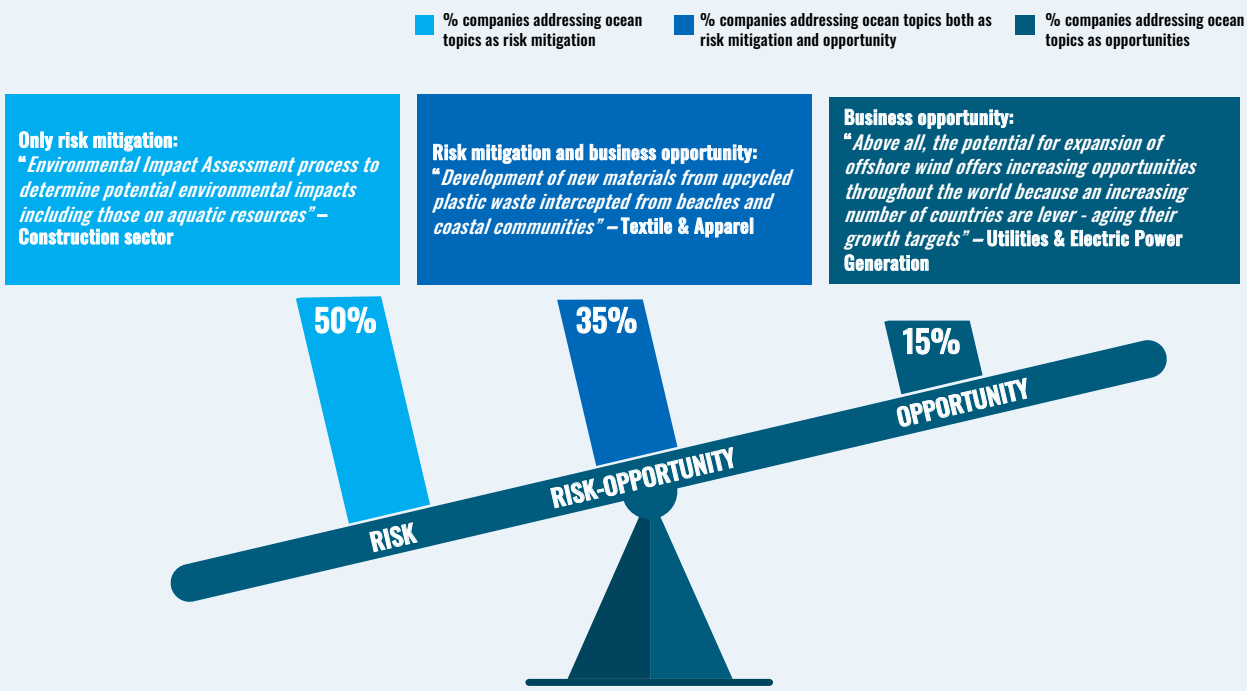
largest companies by market capitalization across 17 industries, reveal that the majority of companies that recognize the importance of the ocean challenge are still taking a predominantly "reactive" approach. Specifically, 50 percent of the companies in the sample prioritize a mitigation-oriented approach, focusing on risk management and compliance with regulations and standards. For instance, these companies implement strategies by establishing risk assessment processes to identify and mitigate pressures on water resources, or by implementing preventive measures to avoid hazardous spills. Additionally, some companies form partnerships, at times with nongovernmental organizations, to support ecosystem protection and restoration projects to mitigate the physical and reputational risks associated with their operations. Conversely, only a small proportion of companies, 15 percent (Figure 1), view the marine environment as a genuine source of opportunities for developing new markets or increasing productivity. Examples include companies dedicated to producing energy derived from the sea or those operating in the fish industry and marine aquaculture sectors.

The remaining companies surveyed (35 percent) acknowledge the importance of an approach that combines risk mitigation with the potential to create value through marine conservation. Some of these companies are investing in projects to develop new products from plastics recovered from the ocean, while others are focusing on restoring marine biodiversity through carbon sequestration

FIGURE 1. RISK MITIGATION AND OPPORTUNITY ANALYSIS ON COMPANIES ACTIVE IN AT LEAST 1 OCEAN-RELATED ODI DIMENSION[1]

Risk mitigation and opportunity analysis on companies active in at least 1 ocean-related ODI-dimension[1]

# of actions achieved in each ODI dimension/total # actionable initiatives available in each ODI dimension by level of activation, %



1. Excluding indirectly ocean-related managerial dimensions (i.e., product, process and supply chain innovation)

Source: Authors' elaboration: GenAI approach applied on a sample of 163 Sustainability or Annual Reports (2021) of companies belonging to 6 sectors (Textile & Apparel, Fishing & Aquaculture, Construction, Agri-food, Mining Oil & Gas, Utilities & Electric Power Generation)

FIGURE 2. BLUE BUSINESS OPPORTUNITIES AND ENABLERS

Engineering facilitators[1]

Blue Business Opportunities

1 Nature-based Solutions

Sustainable fisheries and aqua-culture

Smart fishing nets: smart and biodegradable, with GPS, Turtle Excluder Devices (TED) or LED lights

New pingers: acoustic devices to deter bycatch

Anti-fouling coatings
Innovative aquaculture cages

Integrated aquaculture systems: recirculating aquaculture system, Integrated Multitrophic Aquaculture (IMTA), aquaponics, seaweed production, sustainable feed sources (e.g., including insects, plant-based, methane)

Materials engineering for marine use:
composites or titanium alloys for aquaculture structures

Ocean eco-system conservation and restoration

Blue carbon market from blue carbon ecosystem restoration: mangrove forests, tidal marshes, seagrass meadows and seaweed forests

Coral and shellfish restoration: 3D printed corals, genetic manipulation of corals, coral farming robots

Solutions to facilitate marine productivity: ocean fertilization, wave-powered pumps

Eco-tourism

Bio-innovations: gene editing, advanced breeding techniques

Coastal engineering solutions to prevent coastal erosion:
seawall, groins, breakwaters

Marine protected areas

Services, products and resources to support the effective management of MPAs

2 Ocean Pollution Control

Wastewater treatments: devices to capture small particles (e.g., membrane biological reactor, rapid sand filter, dissolved air flotation, micro screen filtration with disc-filters)

Oil Spill prevention: Early Automatic detection Systems to monitor ocean pollution

Oil spill response: modeling software, magnetic soaps, clean-up robots, clay sponges

Plastic and microplastic collection: U-shaped barrier, clean up robots, magnetic coils

Engineering solutions to limit ocean pollution: harbour water wheel, floating booms, water- resistant and plant-based plastic

3 Coastal & Marine Engineering

Renewable energy sources: off-shore wind, wave technology, tidal farms, ocean thermal energy conversion, off-shore floating solar farm, solar-wind and wind-wave parks

Energizing public infrastructure: storm surge barriers, floating bridge and tidal power plant

Vessel design & engineering: hydrogen power, green ammonia energy system, electrical-powered vessel

4 Ocean data and digital technology

Ocean data collection and analysis: sensors, robots, autonomous underwater vehicles (AUV), drones, AI, blockchain

IoUT: Internet of underwater things

Advanced satellite technologies

AI-enabled voyage optimization

Digital platform and big data
(e.g., digital twins)

Enablers

Financing and investing

Public and blended programs

VCs, Impact Investment funds, Ocean funds and Institutional Investors

Debt instruments, sustainable insurance products, MPA and PES schemes

Innovation support

Blue-tech incubators and accelerators

Collaboration and Network

Ocean economy innovation networks

Public-private partnerships and corporate alliances

initiatives. Additionally, some companies are investing in technologies that use the ocean to produce clean energy while minimizing potential damage to the marine ecosystems in which they operate.

Although this percentage is still relatively small, analyses indicate that a growing number of companies from various sectors – not just ocean-related industries – are able to recognize the potential of marine natural capital as an opportunity. Increasingly aware and mature companies are beginning to understand that the blue economy can unlock new avenues for value creation. This realization is evident in innovative approaches to mitigating pressures or adopting nature-based solutions, strategies aimed at protecting ecosystem services and conserving the ocean through sustainable practices that benefit both businesses and the marine and coastal environment.

TOWARD NEW BLUE BUSINESS OPPORTUNITIES

Business opportunities associated with natural blue capital have the potential to generate value for companies by reducing costs, improving efficiency, creating new revenue streams, building business resilience, and enhancing reputation and brand image. Some companies are starting to acknowledge this potential, which, if properly leveraged, could profoundly influence the trajectory of innovation, channeling new investments toward the adoption of sustainable practices aimed at protecting marine and coastal ecosystems.

Through research and the gathering of best practices, various ocean-related business opportunities and key enabling factors have been analyzed and categorized into a framework, as illustrated in the table. Specifically, the first category is nature-based solutions[1] and includes sustainable fisheries management, the conservation and restoration of marine ecosystems, and the establishment and management of marine protected areas.
The second category corresponds to solutions for marine pollution control. The third category includes initiatives related to coastal and marine engineering. Lastly, the fourth category, which intersects with the others, comprises digital technology and ocean-related data management

Nature-based solutions include:

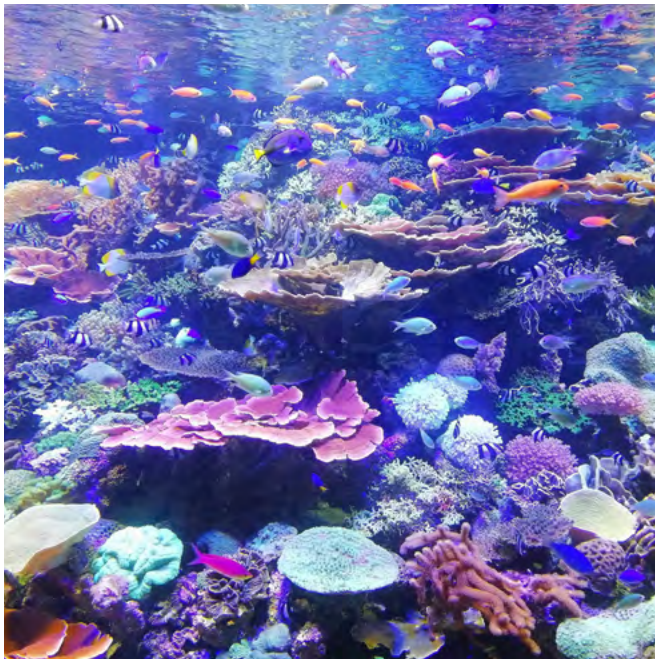
- ***Sustainable fisheries and aquaculture.*** Technologies that facilitate the introduction of more sustainable fishing practices fall into this category. Examples include the development of "smart" fishing nets and acoustic devices (*pingers*) capable of deterring non-target species. Promising solutions to alleviate pressure from the aquaculture sector also involve the introduction of new cage designs to prevent the escape of farmed species, the integration of aquaculture farming systems with algae production, and the use of feeds derived from more sustainable sources such as insects and plants. Additionally, engineering solutions that promote sustainability include the use of advanced materials like composites or titanium alloys to build more durable aquaculture structures.

- ***Ocean conservation and restoration***. Nature-based solutions that increase blue carbon storage capacity offer development opportunities for companies specializing in carbon offsets and credits. These organizations can assist other companies in offsetting CO_2 emissions by investing in *carbon capture and storage projects*, such as the conservation and restoration of mangrove forests, marshes, and marine grasslands. Another intervention type involves

1 Nature-based solutions include, for example, technologies and innovations designed to mitigate climate change by preserving and increasing natural resources.

innovation in *coral reef restoration*, employing both biological and engineered solutions. Equally interesting are solutions centered on the *cultivation of mollusks*, which, as filter-feeding organisms, contribute to the recovery of contaminated ecosystems. *Ocean fertilization* and the installation of *wave energy-powered pumps* to facilitate nutrient upwelling to the surface are additional methods to enhance sea productivity and vitality. *Ecotourism*, when aligned with marine protection and conservation policies and objectives, presents another business opportunity for companies and local communities aiming to safeguard natural resources, especially biodiversity, while offering tourists an enriching experience (Casimiro et al., 2022). Finally, certain engineering solutions aimed at mitigating coastal erosion, such as the installation of barriers, panels, and breakwaters built from sustainable materials, fall within this category.

- ***Marine Protected Areas*** (MPAs). The scientific consensus underscores the necessity for establishing new MPAs to reinforce coastal and marine protection efforts. Numerous studies[2] (O'Leary et al., 2016) indicate that MPAs are among the most effective means to conserve biodiversity and create or maintain resilience in marine and coastal ecosystems. They aid in the preservation and restoration of habitats while fostering economic value creation and social well-being. In essence, MPAs represent valuable assets that remain largely underappreciated and possess the potential to yield significant economic and financial returns over the long term (Davis et al., 2019). Historically, governments and nonprofit organizations have primarily shouldered the responsibility for funding MPAs. However, research indicates emerging opportunities for private investment. Specifically, certain MPAs[3] (Al-Abdulrazzak et al., 2012) offer opportunities for activities in the fisheries, marine, aquaculture, or tourism sectors (Rodríguez-Rodríguez et al., 2015). In these instances, revenues generated from industrial and service activities serve as income sources for both MPA management and investors (Pascal et al., 2021). Moreover, the development of new blended financial instruments, combining public and private funding, addresses the need for additional resources to effectively manage MPAs (Friends of Ocean Action et al., 2020). Consequently, stakeholders – be they public or private – are encouraged to form partnerships and deliver services, products, and resources for the efficient management of these areas. Such collaboration is essential for preserving the health of marine ecosystems and ensuring the creation and equitable distribution of value.



2 This study involves an extensive peer-reviewed scientific literature search and review of relevant articles that identify Marine Protected Areas (MPAs) as one of the primary tools for conserving and maintaining biodiversity and ecosystem services, as well as mitigating the negative effects of anthropogenic activities.

3 The term "Marine Protected Areas" allows for different levels of protection that may either permit or prohibit certain types of activities.

MARINE POLLUTION CONTROL

There are several ways to mitigate the many sources of pollution, including liquid and solid wastes that can alter the chemical and physical parameters of seawater. Regarding *wastewater management*, these options include the development of innovative membranes capable of filtering water and capturing pollutant particles of varying sizes, as well as the installation of specific barriers.
Regarding chemical pollution, oil remains the primary threat to the ocean. Therefore, *preventive measures* such as early detection systems and responsive actions such as utilizing cleaning robots, magnetic soaps, and clay sponges are among the main alternatives available. Other potential solutions to reduce marine pollution include, in terms of prevention, the development of plant-based, biodegradable, waterproof plastics, and the use of water wheels in harbors to collect debris. Additionally, in terms of mitigation, floating barriers designed to trap plastic debris represent a viable approach.

COASTAL AND OCEAN ENGINEERING

The development and implementation of engineering solutions grounded in sustainable innovation for coastal infrastructure are vital for preserving the health of the ocean.
Transitioning to *renewable energy sources*, for example, requires new solutions such as the construction of offshore wind farms, floating solar panels at sea, thermal and wave technology, tidal power plants, and offshore parks that generate electricity from multiple sources.
Another important aspect is *public infrastructure* and the integration of smart solutions such as flood barriers and floating bridges. Furthermore, green solutions in *maritime transportation and ship design*, including the use of clean energy from hydrogen, fuel cells, ammonia, and new propulsion systems, offer compelling alternatives to traditional fuel-based energy sources.

DIGITAL TECHNOLOGY AND OCEAN DATA

The development and use of smart devices such as advanced sensors, cameras, smart buoys, specialized robots, drones, and satellite technology, have the potential to enhance the quantity and quality of ocean data collected.
This is essential for monitoring and predicting ocean conditions, tracking the behavior of marine animals, improving ocean mapping, and preventing pollution. Real-time data acquired through the Internet of Underwater Things can aid in identifying short- and long-term trends and contribute to digital platforms.
Finally, artificial intelligence is expected to play a pivotal role in data analysis, forecasting, responding to ocean-related challenges, and optimizing maritime operations such as route calculation.

ENABLING FACTORS

The ocean-related innovations and business opportunities mentioned above often rely on the support and involvement of various *enablers* that facilitate their financing, development, and promotion.
Financial instruments and actors can support the creation and growth of businesses in these areas by providing the necessary resources to startups and innovators working on ocean-related solutions. For example, debt instruments such as *blue bonds* and sustainability-related loans, sustainable insurance products, public and blended financing programs, or MPA-specific financing schemes, often provided by conservation trust funds, can be utilized.
In addition, venture capital, impact investing funds, dedicated ocean funds, and institutional investors can serve as catalysts for the creation of large-scale blue business opportunities.
In this regard, according to an analysis on international financial markets conducted by Morgan Stanley in 2022, nearly 500 equity funds had an average exposure of more than 3 percent

to SDG 14 "Life Below Water," and more than 100 had an exposure of 10 percent or more (Stanley, 2023). Some of these funds are thematic, focusing on water and the ocean, while others encompass broader sustainability-related themes in sectors such as agribusiness and the transition to clean energy, where preserving the health of marine ecosystems remains a critical issue.

In recent years, attention towards the creation of blue businesses has increased, supported by instruments and actors in the field of sustainable innovation and clean tech.

For example, the European Commission initiated the *BlueInvest* investment platform to foster investment, innovation, and sustainable growth in the blue economy. On a broader scale, this initiative is aligned with investments related to the *European Green Deal* (European Commission, 2021), which aims to transform Europe into the world's first zero-emissions continent.

However, the pivotal role played by technology incubators and accelerators in supporting innovation is essential for the development, commercialization, and widespread adoption of ocean-related innovations.
These entities provide a nurturing environment for entrepreneurs and innovators, granting access to specialized expertise and industry networks, offering financial assistance, bridging gaps between research and industry, and facilitating the establishment of partnerships and market access.

Cooperation and networks, such as public-private agreements, business alliances and innovation networks, play a key role in mobilizing the stakeholders necessary to accelerate the development of these solutions. These collaborative initiatives bring together diverse entities, including corporations, SMEs, startups, public organizations, research centers, and universities, so that collectively they can drive progress in the ocean economy.

In conclusion, our research underscores the urgent needed for heightened focus on ocean protection and a transition from a predominant approach centered on risk mitigation to one that prioritizes seizing opportunities within the blue economy. However, our work also indicates that a subset of companies appears to be moving in the right direction. As awareness of the challenges facing the ocean grows, we anticipate a rising interest in creating value through the adoption of more sustainable practices, which can yield competitive advantages for companies, benefits for communities, and safeguarding of marine and coastal ecosystems.

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THE OCEAN DISCLOSURE INITIATIVE
A NEW PLATFORM FOR COLLECTIVE CHANGE

One Ocean Foundation's Ocean Disclosure Initiative (ODI) is emerging to fill the void of ocean-focused initiatives. Based on ocean focus, science and ESG alignment, the ODI engages multiple stakeholders. Its structured questionnaire assesses companies' ocean impacts and actions, fostering collaboration and refining strategies. The ODI promises to be a groundbreaking tool for advancing ocean sustainability awareness and action.

OCEAN DISCLOSURE INITIATIVE (ODI)//SUSTAINABILITY REPORTING//SUSTAINABILITY// ESG FRAMEWORK//
GOOD ENVIRONMENTAL STATUS (GES)//GLOBAL REPORTING INITIATIVE

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The Business for *Ocean Sustainability Report, Third Edition: Seizing the Blue Opportunity*[1] (One Ocean Foundation et al., 2023) examined, in part using generative artificial intelligence (GenAI), a comprehensive sample of over 2,500 annual or sustainability reports from international companies. The focus was on analyzing objectives, actions, and outcomes concerning direct and indirect impacts on the ocean.

The study illustrates that sustainability reporting is both widespread and expanding, with 93 percent of surveyed companies indicating that they adhere to at least one sustainability reporting standard. This marks a 7 percent increase compared to the findings of a similar survey conducted by the same research group in 2020 (One Ocean Foundation et al., 2020).

1 This is a project developed by One Ocean Foundation (OOF) in collaboration with the Sustainability Lab of SDA Bocconi School of Management, McKinsey & Company, and CSIC (Spanish Consejo Superior de Investigaciones Científicas).

In terms of the various standards and frameworks used (Figure 1), key international ESG initiatives were examined, with a particular focus on the prevalence of initiatives aimed at reporting on ocean-related pressures.

We found that 76 percent of companies reported referencing the *Sustainable Development Goals* (SDGs), the 17 global goals adopted by the United Nations in September 2015 as part of the 2030 Agenda for Sustainable Development. Close behind is the *Global Reporting Initiative* (GRI), cited by 73 percent of companies in the sample, confirming its status as the most widely utilized approach to reporting on the *people*, *planet*, and *profit* dimensions globally.

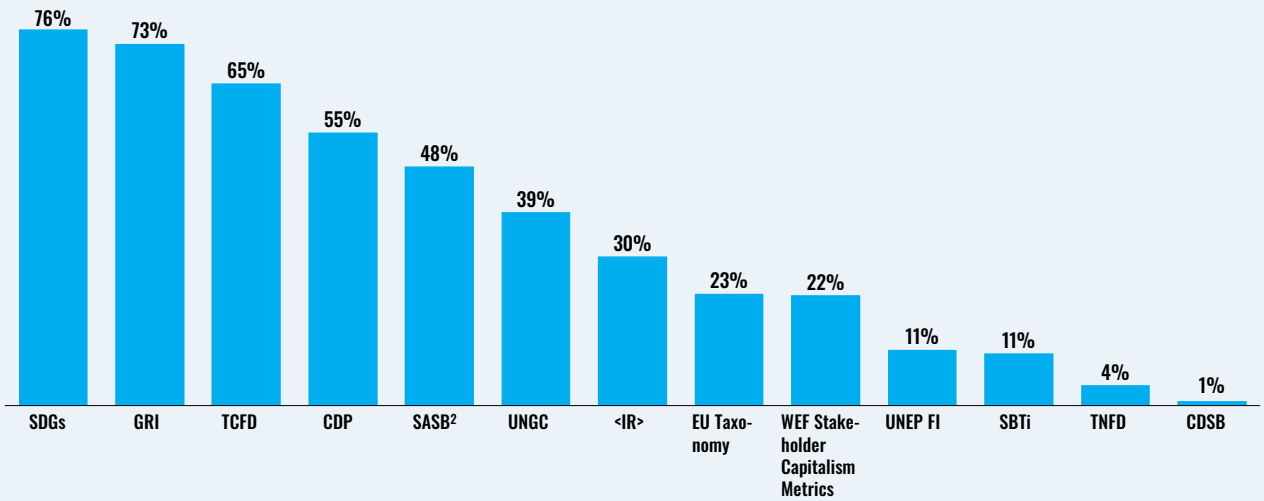
Among sustainability-related challenges, addressing climate change appears to be receiving particular attention, given the proliferation of standards aimed at ensuring disclosure of various types of information. 65 The *Task Force on Climate-related Financial Disclosure* (TCFD) framework, an initiative launched by the Financial Stability Board (FSB) in 2015, is referenced by 65 percent of companies. This framework provides guidelines for analyzing climate-related financial risks and advocates for the disclosure of clear and consistent information regarding these risks and the opportunities arising from the transition to a low-carbon economy.

The CDP (formerly the *Carbon Disclosure Project*) is a close second, reported on by 55 percent of companies. This indicates that the CDP maintains a significant lead in measuring greenhouse gas emissions and disclosing actions taken to mitigate them, a role it has developed since its inception in 2002. Among the specific frameworks, albeit less prevalent (11 percent), is the *Science-Based Target Initiative*. This initiative aims to compel companies

FIGURE 1. SUSTAINABILITY STANDARDS, INITIATIVES, AND FRAMEWORKS

Most popular ESG disclosure standards, initiatives and frameworks[1]

 # companies mentioning selected ESG disclosure standards/total # companies in the sample, %



1. Natural Capital Protocol, High level Panel for a Sustainable Ocean Economy, Sustainable Shipping Initiative, The Ocean Framework by Fondation de lar Mer, Planetary Boundaries Framework, UN Global Compact |SDG Action Manager have been analyzed but adopted by less than 1% of the companies
2. SASB and ‹IR› merged in 2021 in the Value Reporting Foundation (VRF). In 2022 the VRF and CSDB were both incorporated in the IFRS Foundation

Source: Authors' elaboration: GenAI approach applied on a sample of 163 Sustainability or Annual Reports (2021) of companies belonging to 6 sectors (Textile & Apparel, Fishing & Aquaculture, Construction, Agri-food, Mining Oil & Gas, Utilities & Electric Power Generation)

to set and implement greenhouse gas (GHG) emission reduction targets that are consistent with scientific evidence and the goals of the 2015 Paris Agreement.

This is followed by additional generalist frameworks that encompass all ESG dimensions. We found that 48 percent of companies report using *SASB standards*, developed by the Sustainability Accounting Standards Board, an initiative launched in San Francisco in 201. Covering 77 industries, SASB aims to assist companies in their reporting and materiality analysis processes. SASB is also gaining traction in North America, driven by the Securities and Exchange Commission (SEC) pushing to mandate publicly traded companies to provide information on risks and opportunities related to ESG issues. Meanwhile, the *United Nations Global Compact* is adopted by 38 percent of companies, while 30 percent refer to the *Integrated Reporting Framework*.

Regulatory approaches aiming to encourage disclosure of sustainability information include the taxonomy proposed by the European Union in 2021. Twenty-three percent of companies mention this regulation, introduced to standardize the reporting of sustainable business activities, with a focus on supporting ecological transition and decarbonization investments. The fact that almost a quarter of the sample refers to this recent initiative underscores the significant impact this classification criterion is having on the sustainability disclosure landscape.

Finally, with a narrower distribution, we find the *WEF Stakeholder Capitalism Metrics* (22 percent) and the United Nations-UNEP FI initiative (11 percent), as well as the *Taskforce on Nature-related Financial Disclosure* (4 percent), a novel approach aimed at formulating a specific reporting framework concerning the analysis of pressures and risks arising from interactions between organizations and natural ecosystems.

Despite the plethora of standards intended to foster and bolster disclosure and reporting on ESG issues, the research reveals a dearth of specific initiatives geared towards safeguarding the ocean. Consequently, there appears to be an urgent necessity to develop a suitable tool capable of addressing aspects pertaining to the health of marine and coastal ecosystems. Indeed, in line with the findings of previous studies and publications promoted by the One Ocean Foundation, none of the existing initiatives are tailored for this purpose.

It is therefore paramount to delineate a new tool capable of aiding companies in both gathering and disseminating data and information on pressures affecting the ocean, as well as in implementing measures to preempt and alleviate identified adverse impacts on marine and coastal ecosystems, and to restore their functionality. To bridge this gap, the One Ocean Foundation has committed to developing the *Ocean Disclosure Initiative* (ODI) since 2019 (One Ocean Foundation et al., 2021), the inaugural framework dedicated disclosing data and information concerning ocean sustainability. The aim is to foster heightened awareness among companies across various sectors and within the financial community.

FIRST INITIATIVE TO DISSEMINATE INFORMATION ON OCEAN SUSTAINABILITY

The Ocean Disclosure Initiative is a program designed to assess companies' awareness of and strategic responses to the direct and indirect pressures on marine and coastal ecosystems. Additionally, the proposed approach by the One Ocean Foundation aims to foster a shared understanding among businesses, finance, academia, and civil society.

The ODI is built upon the following distinctive elements:

- *Ocean focus.* The initiative aims to address the absence of standardized guidelines, frameworks, metrics, and indicators for disseminating data and information related to pressures on marine and coastal ecosystems, along with companies' efforts to mitigate these pressures.
- *Materiality.* The focus is on the most significant direct and/or indirect pressures exerted by each company, considering the unique characteristics of each sector.
- *Science-based approach.* ODI seeks to promote the collection and dissemination of data and information rooted in sound and reliable scientific evidence, as well as understanding of social-ecological systems, with the goal of enhancing the health of marine and coastal ecosystems.
- *Broad and comprehensive analysis scope.* The initiative aims to address not only direct pressures on marine ecosystems but also indirect pressures stemming from land-based economic activities affecting the ocean.
- *Consistency with ESG approaches.* ODI aims to adopt a similar rationale to the prevalent ESG risk management standards widely used in the financial community.
- *Multi-stakeholder engagement and early adopter involvement.* Participation is open to various stakeholders, including businesses, finance, academia, research institutions, NGOs, civil society, trade associations, and consumers.
- *Alignment with major existing initiatives.* ODI was established to complement existing standards and initiatives on ESG issues, such as those addressing greenhouse gases or biodiversity, by offering specific expertise in ocean conservation.

QUESTIONNAIRE AND FRAMEWORK STRUCTURE

The core element of the Ocean Disclosure Initiative is a structured questionnaire designed to gather primary information along various dimensions. This questionnaire enables companies to evaluate their level of maturity in ocean protection and aims to map any strategies, goals, and targets adopted, as well as specific activities implemented to prevent, mitigate and/or remediate pressures on marine ecosystems.

A scoring system is associated with the collected and reported information, providing a summarized evaluation of the actions undertaken by each company. This results in a final profile and a numerical value summarizing the company's performance. Furthermore, this approach allows for the comparison of performances among companies operating within the same sector. To comprehensively address the complexity of interactions between each industry and marine/coastal ecosystems, ODI has adopted a sectoral approach. This approach entails using tailored questionnaires dedicated to each analyzed industry. The questionnaire comprises a set of common questions applicable to all sectors, as well as specific questions addressing "material" issues relevant to each industry.

The ODI questionnaire categorizes the various pressures exerted by each company on the ocean into three main areas, termed domains, while the structure is delineated into five key managerial dimensions. The amalgamation of domains and management dimensions forms an integrated

model assessing the array of activities companies undertake concerning the marine environment (Figure 2).

More specifically, the eleven *Good Environmental Status* (GES) descriptors identified by the EU in the Marine Strategy Framework Directive are aggregated across the three marine domains. These descriptors serve as indicators identifying the primary components of marine and coastal ecosystems and measuring their health status. Thus, to ensure the functionality and viability of marine ecosystems, all eleven indicators must be measured and monitored.

In contrast, the five management dimensions are employed to assess the level of awareness among companies and to report on the types of strategies and actions implemented. Specifically, this framework aims to equip companies with a tool for identifying and mapping both direct and indirect pressures on the ocean, as well as illustrating the main initiatives implemented to prevent and/or mitigate them.

The ODI methodology is intended to be science-based, using a combination of primary and secondary sources of information validated by the scientific community. Primary sources include the company questionnaire described above, supplemented by additional information generated by companies, such as sustainability reports, financial statements, or other documents available online. Secondary sources, such as industry reports, NGO reports, press reviews, ESG databases, are used to supplement the information and provide further details on the existence of actual or potential controversies involving the company under review.

FIGURE 2. OCEAN DISCLOSURE INITIATIVE (ODI) FRAMEWORK

Ocean Domains

Managerial dimensions	Marine biological integrity and diversity	Marine water contamination and chemical conditions integrity	Seawater and/or seabed physical conditions integrity
Business activity			
Governance and policies			
Pressure, dependence and risk assessment			
Role and measurement of ocean pressures			
Managerial activation			

Sources of information

Primary sources

Questionnaire	Self-declared documentation • Sustainability, integrated and annual reports • Corporate websites • Other relevant documents produced and released by the reporting companies (e.g. COP reporting, SBTi commitments)

Secondary sources

External sources • Press releases • NGO reports • External databases	• Specialized information retrieval • Stock exchange filings • ESG Ratings services

Source: Authors elaboration on ODI framework. Adjusted from: OOF (2022) Ocean Disclosure Initiative

BUSINESS AND STAKEHOLDER PARTICIPATION IN THE DEVELOPMENT PROCESS

The questionnaires developed under the ODI are tested with selected companies to provide a representative sample of the industrial structure of each sector and the nature of the direct and indirect pressures on ecosystems. Throughout this process, the participation of the business community is paramount for the development, refinement, and improvement of the tool.
Indeed, pilot projects foster close collaboration with participating companies; the exchange of information and knowledge enables the refinement of the questionnaires and facilitates the creation of a more robust framework at the sector level. In addition, there is an annual process of updating the questionnaire to incorporate evolving scientific knowledge and stakeholder demands, as well as to update the relevant regulatory and institutional framework.

THE IMPORTANCE OF THE OCEAN DISCLOSURE INITIATIVE

The Ocean Disclosure Initiative (ODI) aims to establish a common language among business, academia, finance, institutions, and civil society to address and mitigate humanity's impact on the ocean. Designed to complement existing ESG frameworks, this initiative introduces a missing dimension: ocean sustainability. On the corporate front, companies adopting the ODI will enhance transparency and contribute to the preservation of marine and coastal ecosystems.
Simultaneously, the financial sector will leverage ODI profiles to mobilize resources and channel investments towards companies with strategies that aid preventing and mitigating pressures on marine ecosystems, aligning with their sustainability objectives.

In essence, ODI strives to be the premier international platform for empowering businesses to catalyze change, transforming the challenge of ocean conservation into an opportunity for innovation and shared value creation.
This endeavor presents a formidable task, as the fate of the ocean is intertwined with the dynamics of other complex systems, including climate and biodiversity, as well as socio-economic variables such as poverty, hunger, and equality. Nonetheless, protecting the ocean is an imperative prerequisite for achieving a more sustainable development paradigm.

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THE INNOVATIVE PHARMACY

The current health and wellness landscape offers consumers a wide range of alternatives, both in terms of products and distribution channels. In this context, as the focus of the Channel & Retail Lab 2023 reveals, innovations in the pharmacy model are revolutionizing customer interaction strategies, both inside and outside the store, through a combination of retail mix and go-to-market strategies.

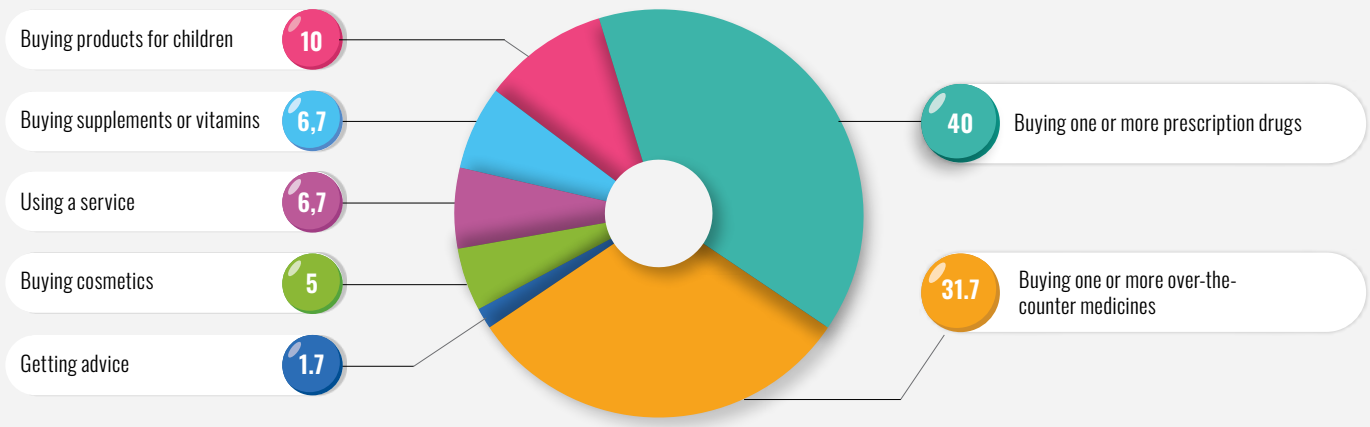
The Channel & Retail Lab is a think tank, a reference point in Italy and abroad, focused on digital transformation and go-to-market, involving key leaders from different sectors in the design of practical tools useful for responding to real market needs, comparing innovations and enhancing and disseminating the added value of innovation for knowledge development. Sandro Castaldo, Erika Mallarini, Antonella Pirro Ruggiero, Marianna Bartiromo and Marco Fanelli participated in the 2023 work on pharmacy innovation for SDA Bocconi. Research partners: Chiesi Italia, DigitalSolutions, Haleon, Phoenix Pharma Italia and Teva Italia.

This approach focuses on three main objectives:

1. ***Drive to Store***: establish a relationship with customers before they enter the pharmacy through unique offerings (e.g., private label, specialty certifications, value positioning) and the use of innovative attention-grabbing tools (e.g., beacons, interactive storefronts).
2. ***Meeting Latent Needs***: bring out the latent needs of the customer through a product display that stimulates permanence and orients the consumer within the pharmacy, accompanied by a customized integrated offer. This can be achieved through effective communication, both physical and digital, and through targeted promotions.
3. ***Consumer Solution***: providing quality advice to transform products into customized solutions that meet the specific needs of the customer.

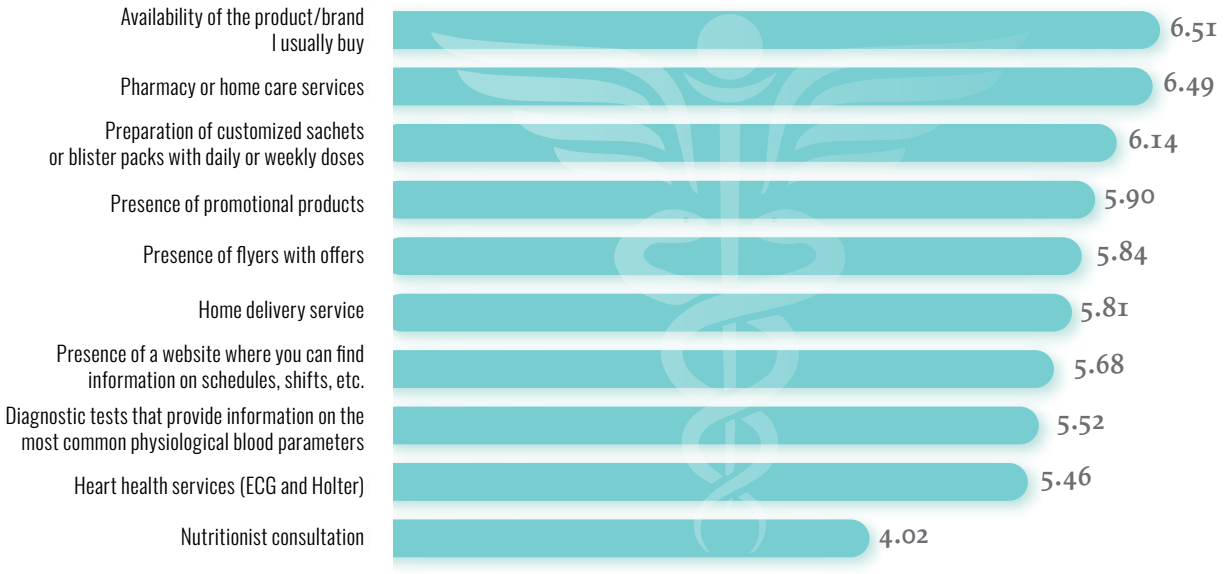
REASONS FOR ENTERING THE PHARMACY

values %



The main motivation for going to the pharmacy is to purchase prescription drugs, although this percentage has decreased since 2022. It should be noted that 6.7 percent of respondents enter the pharmacy to receive a service.

THE PHARMACY OF CHOICE[1] What are the reasons people choose one pharmacy over another?



Although geographic proximity is the main factor in choosing one pharmacy over another, there are other attributes that may influence this decision, such as the presence of nursing services (6.49%).

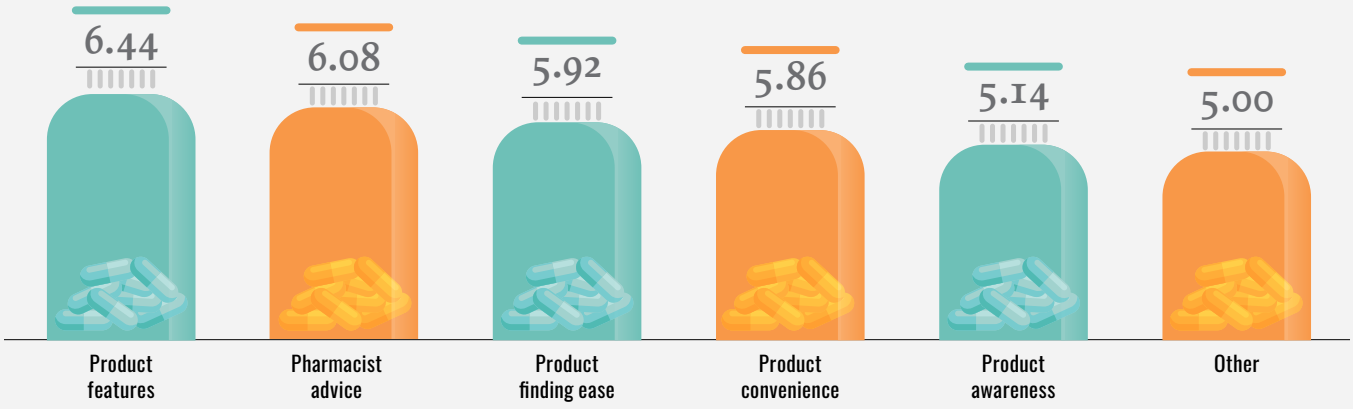
[1] Rated on a scale of 1 to 7, where 1 indicates minimal relevance and 7 indicates total relevance.

MOST VISITED PRODUCT SHELF CATEGORIES

Vitamins	10%	Dermocosmetics	2%	Stomach	1%	Hair Care	0.2%
Dermocosmesi	4%	Relaxation	2%	Pain Relief	1%	Personal Hygiene	0.1%

Among the categories most visited by shoppers stopping in front of a shelf are vitamins (10 percent) and dermocosmetics (4 percent). This underscores the importance of a curated display to generate interest and drive sales.

MOTIVATION TO BUY[2]



The second most important factor in purchasing a product is the pharmacist's recommendation. The first factor is the product features, although it is often the pharmacist who explains them to the customer.

[2] Rated on a scale of 1 to 7, where 1 indicates minimal relevance and 7 indicates total relevance.

STEFANO CASELLI

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Capital Markets A Key Asset for Growth

This article analyzes the critical issue of wealth distribution and its importance in addressing contemporary challenges, including economic growth, innovation, and energy transition. It highlights the disparity in financial development and investment between the European Union and the United States, emphasizing Europe's need to diversify financing and link financial resources to productive investment. The Capital Markets Union (CMU) initiative is presented as a strategic response aimed at developing an integrated EU financial market to support European businesses, provide investment opportunities, and enhance economic resilience and growth. The analysis also considers the strategic importance of company size, the role of banks, and the need for a unified European financial and industrial policy to ensure Europe's competitive position on the global stage.

CAPITAL MARKETS UNION (CMU)//WEALTH DISTRIBUTION//FINANCE//VENTURE CAPITAL//GLOBAL COMPETITION

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THE POWER OF NUMBERS AT A GLANCE

The coming months will be crucial for thinking about how to shape the European Single Market and how to make the European Union competitive with other economies. The values at stake, compared to the size of the United States on the one hand and China on the other, would be enough to justify the reasons for accelerating the path of political integration. This would enable the economic systems of the individual European countries and their companies to play a role on the international stage. But the optimism of reason must be supported by progressive steps, and the

construction of the single financial market – the Capital Markets Union – is a decisive part of this path, since it addresses not only the question of the good functioning of the markets, but above all of the good use of the available financial resources (in Europe and in Italy).

The magnitude of the numbers is essential for the understanding of the economic "playing field" and its potential to be exploited in a European perspective (Thomadakis, 2024).
Today, world GDP is more than 110 trillion dollars and global wealth is a growing multiple: 15 times world GDP compared to 8 times in 2011. Specifically, financial assets held by financial intermediaries are 510 trillion dollars, those held by households, the public sector, and corporations are 550 trillion, and real assets are 490 trillion. In total, liquid and near-liquid assets amount to 190 trillion, almost double the GDP. In Italy, households hold 5,300 billion euros in financial assets, of which 20% are liquid and, again, investable.

The good news of this data is that the power of wealth and unprecedented liquidity shifting from one side to another can take or give value to anything (Lockhart & Carney, 2021).
This means that every investor, even for a single euro invested, is responsible. The paradox is that the amount of financial and real assets is not enough to satisfy the hunger of investors, and therefore the financing options for companies are open and multiple: i) private equity and private debt, ii) public equity and bonds, iii) loans.
This is difficult as one has to play with different conceptual rules and patterns (from funds to financial markets to banks). Is this the best of all worlds? As wealth becomes a growing multiple of GDP, the growth of GDP and wealth is not homogeneous, and the gaps multiply, from the use of natural resources to rights. The great challenge of ESG criteria becomes pragmatic and far-reaching in the quest to preserve and improve our ecosystem.

THE CAPITAL MARKETS UNION: HEAVEN IN A ROOM?

The issue of wealth distribution is becoming critical to supporting today's multiple challenges such as GDP and employment growth, driving innovation, and enabling the energy transition. But if we take a closer look at the international comparison, the figures show that we are at the bottom of the league, as we learned at the last *High Level Seminar* in Ghent, organized by Eurofi.
If we take as data on financial development and the use of savings the sum of investments in debt securities (mainly government bonds) and listed securities (the stock market), the European Union has a ratio of 233% of GDP and the United States 449%. If we consider only the stock market, the ratio falls to 81% in Europe, while it is 227% in the United States. In 2015, these two ratios were 61% and 131% respectively (Truchet, 2023).
Is debt the path to growth? Or is venture capital the most appropriate tool to address the challenges we face? The role of Europe's industrial vision and the question of what role we can play is crucial.
The Capital Markets Union (CMU) initiative was launched in 2015 with the aim of further developing and integrating the EU's domestic financial markets with three distinct objectives (Lannoo and Thomadakis, 2021):

- Diversify financing opportunities for European companies, especially those with the most innovative and highest growth potential.
- Provide more medium and long-term investment opportunities for savers.
- Link financial resources more effectively to more productive investments.

At the macroeconomic level, the broader objective is to preserve the stability of the European economic system and to ensure that it has greater resilience and capacity for growth. And today we would also add greater visibility and ability to compete globally The CMU initiative therefore has the extraordinary ambition of the whole and

the impossibility at the same time to manage everything as a real CMU will be possible in fact only after a European political unity. However, CMU must be seen as: a project to build a complex ecosystem made up of so many seemingly separate parts; the most important challenge for the realization of the European Union itself; the link between national and European challenges; a philosophy of action that is both top-down and bottom-up. Two fundamental aspects must not be overlooked: what we want and what we have.

What kind of European economic system do we want? What kind of companies do we want? And what industrial policy to adopt in a world that competes on the basis of the size and comparability of large companies? Instead, the current situation shows that although the CMU aims to diversify sources of financing, Europe's "bank-centric" nature is a "state of nature" and therefore an opportunity to be seized.

THE NARRATIVE OF GROWTH AND SCALE: THE MISSING PIECE TO BUILD EUROPE

What kind of companies do we want to have in the coming years is one of the most important questions that the European Union and its citizens should be asking themselves. This question does not seem to be very present in the overall debate, as it is now largely overtaken by the national debate on each country's industrial policy (if there is one), rather than by the general issues of how to use the Union's financial resources and the rules of engagement for each country. These are all central and legitimate issues, especially if we are looking for a better functioning of the Union, but if we consider that GDP growth and employment are variables that are indispensable for our collective future, much of the attention and political debate should be shifted to industrial policy issues. Particularly in view of the kind of Europe we want to have after next year's vote. If this does not happen, the real risk would be not only to be subordinated to the inevitable confrontation between the United States and China – which is a confrontation of values, but above all of industrial vision, as seen in the meeting between Biden and Xi Jinping in San Francisco in October 2023 – but also to remain on the margins of the new structures that are emerging globally.

Are we aware of Europe's weight in today's economic system? It is necessary to look at the figures in order to understand their dynamics and to be able to start a real reflection (Table 1). If we compare today's world with that of 2008, which emerged from the deep financial crisis that marked the beginning of the millennium, the values at stake are profoundly different. In Table 2 you can see the ranking of the world's top

TABLE 1. THE FORTUNE 500 COMPANIES IN 2008 AND 2023

Country	Year 2023	Year 2008	Country	Year 2023	Year 2008	Country	Year 2023	Year 2008	Country	Year 2023	Year 2008
China	135	61	Netherlands	11	14	Ireland	3	2	Norway	1	1
USA	122	133	Taiwan	8	8	Finland	2	1	Saudi Arabia	1	1
Japan	53	68	India	7	8	Mexico	2	1	Thailand	1	1
Germany	27	32	Spain	7	6	Sweden	2	3	Turkey	1	0
France	26	27	Brazil	6	4	Belgium	1	5	Austria	0	1
Great Britain	22	10	Italy	6	10	Denmark	1	1	Colombia	0	1
South Korea	15	14	Australia	4	8	Indonesia	1	0	Hungary	0	1
Switzerland	13	14	Russia	4	7	Luxembourg	1	1	Venezuela	0	1
Canada	12	11	Singapore	4	2	Malaysia	1	1			

twenty companies by revenue. On the one hand, the world of 2008 had 10 European companies and a predominance of an oil-driven economic system. On the other, in the world of 2023, Europe is reduced to 4 companies, compared to 10 in the U.S., and there is a much greater diversity of industries and countries, led – in the case of China, Singapore, and Saudi Arabia – by state capital and seeking to play a decisive role in global competition. If we look at the total data of the top 500 companies in the world, always comparing 2008-2023, the total numbers mark an overshoot of the United States by China (in 2008 the U.S. had 133 companies and in 2023 they have 122, compared to 63 and 135 Chinese respectively), the European Union falls from 112 to 88 (more than half of which is in France and Germany), as well as Japan continues on its path of slow decline. Italy in the same interval falls from 11 to 5, clearly losing weight in the scenario of global competition. This does not seem to be a fundamental issue for Italy's internal debate. Proof of this is the fact that the news that Italy no longer has any banks on the list of those considered globally systemic has gone completely unnoticed.

The values at stake in the global comparison are even more unbalanced in the American system if we look at the revenue positions of the top 20 companies, where the United States has 10 companies and the European Union only four (Table 2). If this general redistribution of GDP, employment and financial capital is inevitable in a world characterized by "platforms and systems" – the United States, China, India, Asia-Pacific and clearly the Gulf, with its symbolic affirmation and proof of strength for Expo 2030 – it is unacceptable that "our system," represented by the European Union, does not have the appropriate size. The first consideration is related to the fact that the size of companies, and therefore the presence among the largest in the world, is not an option but a necessity. This does not in any way contradict the dignity and relevance of small and medium-sized companies, but it is a driving force that guides the major choices of innovation, of attracting talent and capital, and also of political confrontation in the broadest sense. The second consideration is linked to the choices and policies that Europe must make in order not to be marginalized as a result of its overall weight loss.

But the issue is above all that of the great fundamental choices. These go through three different areas (Caselli, 2023). The first one is the financial market. It is impossible to create and maintain a platform of large European companies if the banks are not large systems that can support the overall expansion before them. Banks are an industry (contributing to GDP and

TABLE 2. TOTAL REVENUE RANKING OF THE TOP 20 COMPANIES IN 2023

	Company	Country	Revenue		Company	Country	Revenue
1	Walmart	USA	573,11	11	CVS Health	USA	302,33
2	Saudi Aramco	Saudi Arabia	565,23	12	Trafigura Group	Singapore	298,58
3	State Grid	China	496,61	13	China State Construction Engineering	China	286,78
4	Amazon	USA	481,88	14	Berkshire Hathaway	USA	283,22
5	China National Petroleum	China	452,82	15	Volkswagen	Germany	275,34
6	Sinopec Group	USA	441,73	16	Uniper	Germany	270,38
7	Exxon Mobil	USA	387,84	17	Alphabet	USA	265,17
8	Apple	USA	369,70	18	McKesson	USA	259,43
9	Shell	Netherlands	362,08	19	Toyota Motor	Japan	257,31
10	UnitedHealth Group	USA	303,92	20	TotalEnergies	France	246,86

employment) and an infrastructure that allows the whole production system to grow. Without a full-fledged European Banking Union, and then a Capital Markets Union, it is difficult to think of aggregations between banks that will give Europe a large sample to compare with the big American banks (today) and non-Japanese Asian banks (tomorrow).

The second is that of company mergers. While it is true that the backbone of SMEs is a characteristic feature not only of Italy but of the Union in general, it is essential to create all the conditions for the inexhaustible reservoir of small businesses to give rise to companies that become first medium and then large or very large. It is also necessary to reflect on business models that seem to be lacking or have been overwhelmed by the American model (that of financial capital) and by what is happening in the Gulf and in China (that of state capital).

What is the European way? Can it be the model of the conglomerate, as France partly demonstrates? Or that of financial capital, supported by a hard core of strong and stable shareholders, as can be seen in the largest companies in Germany, France and Spain? The third is that of the sectors and industrial areas to focus on for growth. We know that Europe is not rich in natural resources, but it continues to have a deep tradition in mechanics, agri-food, clothing, and can play a role in pharmaceuticals and health – the European Parliament has a duty to ensure that the European Union is able to play its full role in this process. It is not a matter of ranking the deserving sectors, but of selecting the broad areas of background that the European Union identifies (and considers "its") as qualifying elements of its vision, and then facilitating the pathways of aggregation. If we have to find a common narrative for the coming months and especially for the electoral debate, it would be a collective victory to always find a common denominator called growth and called great dimension. From this, we must say without embarrassment, comes everything else today.

THE CENTRAL ROLE OF BANKS

Two elements will play a critical role in the challenge of designing a single financial market. The first is to strengthen and make more effective the role of banks as an essential part of the European financial market. The second is to coordinate the choices of the "industrial policy of the financial market" of the individual countries in order to facilitate the convergence towards the perspective of development.

The CMU paves the way for a broader and more integrated financial system, based on financial markets in the broadest sense and thus implicitly aimed at overcoming European "bank-centrism." But the presence of banks is indispensable and rooted in our DNA and our way of being "European." The role of banks is therefore crucial for:

1. Directly allocating resources (via lending).
2. Advising companies (of all sizes) and investors to make their own decisions on liabilities and assets (via investment banking).
3. Linking savings to the economic system as a whole (via asset management).

This is only possible if the banking system increases its size by creating large players capable of competing on a global scale, and increases its diversity by adding intermediaries specialized in investment banking and asset management. Alongside the CMU, the Banking Union must therefore continue on its path, paying attention to the issues of banks' strategy and their competitive models.

The European Union therefore needs "more giants like JP Morgan." These are the words spoken by Andrea Enria in his farewell interview with Christine Lagarde to trace the scenario and the challenges for the European banking system. JP Morgan is the world's leading bank in terms of total assets and market capitalization. It certainly expresses this sense of great size and scale, which is an element that is partly missing to complete the path of the Banking Union. Above all, however, the European Union needs bigger and more diversified banks, which can be created by a new impetus in M&A operations at the transnational level, in order

to provide Europe with a functional infrastructure for growth. Next year will be crucial for our continent, not only because of the elections, but above all because the Union must reflect on the role it can play in the global scenario and the role it must play in driving GDP and employment growth. An important part of this reflection must be based on the need to equip itself not only with a more solid banking system protected from crises – as has now happened – but above all capable of being a development factor for European businesses.

What are the numbers today? If we look at total assets, in the top ten banks in the world (Table 3), after JP Morgan and Bank of America, in first and second place respectively, we find four EU banks, namely BNP Paribas, Crédit Agricole, Santander and the BPCE group. In the top 20, French banks are the most represented (with 5 banks out of 20) and for Italy we have only Banca Intesa. If we look instead at the market capitalization and therefore the value of the banks, there are no European Union banks in the top ten in the world and only American, Chinese or British banks.

Why does Europe need bigger banks and what are the benefits for its businesses and citizens? There are three main reasons. The first relates to corporate and investment banking. Growth in the size of firms – and therefore in GDP and employment – depends on their ability to access capital, to raise funds on financial markets and to expand beyond national borders. Corporate and investment banking services can only be provided if the bank is large enough to have a global reach and a critical mass that allows it to attract companies in the areas of IPOs, debt placement, private equity rather than M&A, and support for international growth. To mention another ranking, if we look at the "League Tables of Investment Banking" compiled by the Financial Times, still looking at the top 10 banks in the world for investment banking activity, JP Morgan is always

TABLE 3. TOTAL ASSET RANKING OF THE TOP 20 BANKS IN 2023 (DATA IN USD)

	Bank	Country	Total Assets (euro 000)
1	Industrial and Commercial Bank of China LTD	China	5.373.594.510
2	China Construction Bank Corporation	China	4.694.225.735
3	Agricultural Bank of China Limited	China	4.602.736.274
4	Bank of China Limited	China	3.922.562.198
5	JPMorgan Chase & Co.	USA	3.506.068.047
6	Bank of America Corporation	USA	2.877.082.610
7	HSBC Holdings plc	United Kingdom	2.749.091.082
8	Mitsubishi UFJ Financial Group, Inc.	Japan	2.678.097.692
9	BNP Paribas SA	France	2.591.499.000
10	Crédit Agricole S.A.	France	2.189.398.000
11	Citigroup Inc.	USA	2.176.080.338
12	Postal Savings Bank of China Co., Ltd.	China	1.908.420.195
13	Sumitomo Mitsui Financial Group, Inc.	Japan	1.872.376.144
14	Banco Santander, S.A.	Spain	1.797.062.000
15	Mizuho Financial Group, Inc.	Japan	1.760.416.824
16	Wells Fargo & Company	USA	1.748.303.800
17	Barclays	United Kingdom	1.683.220.665
18	JAPAN POST BANK Co., Ltd.	Japan	1.589.566.900
19	Société Générale Société anonyme	France	1.554.045.000
20	UBS Group AG	Switzerland	1.553.884.674

the first and we find three European banks in the geographical sense, namely Barclays in sixth place, UBS in seventh place (thanks to the merger with Credit Suisse) and BNP Paribas in ninth place. So only one from the European Union. The second is related to the ability to attract young talent and the best managers. The ability of any industry to grow and improve over time depends on human capital. Banks need human capital of increasing quality to be able provide of higher quality services to businesses and people, to citizens. The ability to attract the best possible human capital depends not only on the level of remuneration, but also on the strength of ensuring career paths that enhance and improve the skills of individuals, making the most of the efforts that young people in particular have made in their studies, and offer opportunities for international mobility. If banks do not grow in size – and this is also true of Italian banks – they run the risk of being overshadowed by the attractiveness of the largest companies in the world, which in various sectors (from technology to consulting to pharmaceuticals) are better able to invest in human capital. The third reason is related to technological investment. The ability to offer more accessible services to customers, simpler but of higher quality and at lower cost, depends on the ability to introduce the technological dimension, digital and artificial intelligence in the production and offer processes. This requires significant investments that can only be provided by a larger and more attractive capital. Payment services, but above all investment services for the large retail market, are the sectors in which technological innovation plays a decisive role in ensuring that savings of any size can be linked as effectively as possible to the needs of the real system and its capacity for growth.

It is therefore essential that, in the coming months, the importance of the banking system is not only part of the political debate on what kind

TABLE 4. RANKING OF THE TOP 20 BANKS BY MARKET CAPITALIZATION IN USD (February 2024)

	Bank	Country	Market Cap.
1	JPMorgan Chase & Co.	USA	487.497.735
2	Bank of America Corporation	USA	244.622.718
3	Industrial and Commercial Bank of China Limited	China	229.869.703
4	Agricultural Bank of China Limited	China	184.317.234
5	Wells Fargo & Company	USA	176.513.083
6	Bank of China Limited	China	154.655.089
7	China Construction Bank Corporation	China	149.750.503
8	HSBC Holdings plc	Uk	130.148.889
9	Morgan Stanley	USA	129.790.459
10	Royal Bank of Canada	Canada	127.471.730
11	HDFC Bank Limited	India	120.260.626
12	Goldman Sachs	USA	117.725.743
13	Commonwealth Bank of Australia	Australia	115.819.610
14	Mitsubishi UFJ Financial Group, Inc.	Japan	108.712.635
15	China Merchants Bank Co., Ltd.	China	104.190.287
16	The Toronto-Dominion Bank	Canada	98.367.024
17	Citigroup Inc.	USA	98.351.352
18	ICICI Bank Limited	India	83.176.249
19	UBS Group AG	Switzerland	82.872.480
20	State Bank of India	India	76.236.148

of European Union we want and what instruments are needed to ensure growth in the various countries of the Union. But above all, it is important that the fundamental role that banks play in supporting the growth of the whole economic system is appreciated. A point that sometimes seems to be forgotten.

THE NUMERATOR AND DENOMINATOR OF ITALY: IT'S TIME TO CHOOSE

Is Italy the numerator or the denominator? The answer is not so obvious for Italy, not only because of its history – made up of public debt and bank debt to companies – but also because of the future we have yet to build. If the epidemic put this issue on hold for many months, the sharp rise in interest rates and the slowness with which they are coming down, despite the euphoria of recent times, seem paradoxically to be pushing us into the arms of debt. Interest rates are the perfect temptation for investors and issuers. For the former, after so many years of zero or negative levels, promising rates are welcomed like rain in the desert, an unexpected refuge. For the latter, they are an opportunity to raise funds quickly. But for Italy, this dynamic, which undoubtedly gives greater balance to investment portfolios, risks becoming an alibi and a deadly embrace between that extraordinary resource that is our savings and the public debt.

To choose the path of the denominator, Italy needs more venture capital, not only financially, but also figuratively. Venture capital is indeed a unique and fundamental crossroads. But it is also the ability to create and to leave one's comfort zone. It's the number one place for challenges. Only those who invest in venture capital and those who receive venture capital can accept the challenge of an idea and a project. Sometimes even the challenge of a dream that can change the world. There are rules of governance, there are conventions, there are ways of defining escape routes, but the risk of the challenge remains. Quite different from the spirit of debt, which certainly requires respect for the rules and good discipline, but it is far from the unmistakable taste of venture capital. To an exaggerated degree, but perhaps not so much, transformation and preservation, evolution and defense of the status quo are what distinguish venture capital from debt capital. This sense of challenge, as opposed to preservation, is what animates the sense of growth, investment, projects and bets on the younger generations.

Venture capital is where growth and innovation happen. Thanks to venture capital, every forward-thinking company and entrepreneur can find a way to accelerate their path or start their own business. International expansion, diversification, innovation, acquisitions. Today more than ever, innovation is becoming a way of life and previously unthinkable spaces are being created with astonishing speed. None of this is possible with debt alone. And it is thanks to venture capital that companies reach new dimensions, from small to medium and then to large. In this regard, Italy must take steps to be more decisive, in order not to lose ground in global competition. We must do more, we must invest even more in venture capital to stimulate growth. This does not mean denigrating small and medium-sized enterprises, which are a fundamental axis of Italy's strength and resilience, but it does mean finding the way to turn this extraordinary array of SMEs into companies that become big and huge to be able to compete on an equal footing with companies from other countries.

Venture capital is the field of comparison between shareholders, it is the place where strategies are defined and the long-term path is identified. The strength of any organization lies in comparison and creative ideas, and without these two ingredients, organizations are doomed to fail. Today, the word impact and the broader issue of sustainability are at the center of confrontation and long-term vision. These issues dominate today less because of the impact of fads than because of the nature of the many factors endangering our ecosystem (from inequality to poverty, from water and food scarcity to pollution and bad governance) that only a strong and decisive response can counter. Impact means acting in this direction. This is only possible if the resources are adequate, if the leadership is forward-

looking, and if the people in every organization see themselves in the challenge to which they are called.

Italy is a country in exceptional need of risk capital, of financial capital, of a challenging spirit. Not only to face the mass of accumulated public debt and its inexorable growth, not only to better manage the 5,300 billion euros of financial wealth in the portfolios of Italian households, but above all to feed a growth path for the country that seems lost. After the post-pandemic response, which immediately corrected the negative sign of GDP, Italy has struggled for too long to find a path to growth, GDP, and employment. But there is an antidote to the uncertainty and the complex challenges facing Italy and Europe. Certainly, we need to know how to use the financial system in all its strength, which is a platform capable of linking savings to projects and companies. The financial system is not an optional or separate system, but the infrastructure that allows the economic and social system to develop and progress. It would be unforgivable to forget this, but sometimes it seems as if we have. Choosing growth undoubtedly requires reforms and structural changes. But they must not be used as an alibi for expecting to preserve the status quo. The choice of venture capital is a choice of values, not just financial values. It is a choice for growth, which must be made by placing innovation, entrepreneurship, and international openness at the heart of educational pathways. With the greatest attention to the youngest, who are the soul of the capital of tomorrow, the resource of Italy. But all this requires leadership, vision, and courage. This choice for growth must be made by citizens and by the political class, the common denominator we are looking for.

MANAGERIAL IMPACT FACTOR

- **Strategic focus on financing diversity:** recognizing the importance of diversifying financing sources beyond traditional bank loans. This includes leveraging debt securities, equity markets, and venture capital to support innovative businesses with high growth potential.
- **Focus on medium and long-term investments:** there's a need to focus on creating opportunities for medium and long-term investments that can provide stable returns to investors while supporting the broader economic goals of resilience and growth.
- **Navigating financial integration and innovation:** the push towards a more integrated European financial market through the CMU initiative requires that financial strategies are innovative and consistent with the broader objectives of financial market development and integration.
- **Adapting to a changing industry landscape:** adapting to the shift from a traditional, bank-centric financial model to a more diversified and integrated financial ecosystem. This includes understanding the role of larger banks and the potential for mergers and acquisitions as strategic tools for growth.
- **Global competitiveness and visibility:** in the face of global competition, particularly from the U.S. and China, organizations in the European Union must focus on scaling up operations, fostering innovation, and attracting talent and capital to remain competitive on a global scale.

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Ethical Challenges of Artificial Intelligence

In the foreseeable future, intelligent machines are expected to perform a significant number of tasks, with many activities involving collaborative efforts between humans and artificial intelligence (AI). AI raises ethical challenges from two different angles: one common to all technologies, concerning its potential benefits and drawbacks, and another arising from the acquisition by machines of specific cognitive abilities, such as judgement, decision-making, and initiative, all of which have ethical implications. This confluence of factors raises significant concerns regarding the impact of intelligent agents on individuals, society, and business.

ETHICS//ARTIFICIAL INTELLIGENCE (AI)//ETHICS BY DESIGN//ETHICS BY LEARNING//HYBRID SYSTEMS.

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The discussion of ethics and artificial intelligence encompasses many perspectives, including philosophical, religious, and social. Our focus here is to address the profound questions surrounding the impact of machine behavior on individuals, society, and business, and the potential consequences, both positive and negative. We refrain from addressing whether machines have a moral status arising from their inherent intelligence and whether, in the not-too-distant future, they might deserve rights to protect their "cognitive individuality." Similarly, we do not enter the debate over whether artificial intelligence truly embodies intelligence. While the philosophical dilemma engages many experts around the world, we offer a few clarifications relevant to our discussions.

It's important to note that artificial intelligence is fundamentally different from human intelligence in two ways. First, human intelligence is intrinsic and not inherently goal-directed, existing independently of any specific goal. Artificial intelligence, on the other hand, derives its meaning from purpose, functioning as a tool or utility. This distinction underscores that human intelligence should never be a means to an end, while artificial intelligence finds its essence in utility. Second, self-awareness, a hallmark of human consciousness, can be simulated in neural networks but remains incomparable to human self-awareness. Human self-awareness, intertwined with traits such as love, the search for meaning, spirituality, and a sense of the divine, distinguishes humanity from all other beings or objects. Awareness of one's own existence is intrinsic to human experience and encompasses a depth beyond mere functionality.

ETHICS AND ARTIFICIAL INTELLIGENCE

Artificial intelligence poses ethical challenges from two primary perspectives: one arising from its general use, and another arising from the cognitive capabilities it possesses, such as decision-making and initiative formulation, all of which have ethical implications. When discussing AI and ethics, it's important to distinguish between two distinct areas: ethics for AI and the ethical behavior of AI systems. Ethics for AI refers to the moral duties and responsibilities of humans involved in the design, development, use, or interaction with AI systems. This domain is not exclusive to AI but extends to the use of any technology. On the other hand, the ethical behavior of AI systems represents a new ethical dimension unprecedented in human history.

This article will focus primarily on the latter aspect – the ethical behavior of AI systems – recognizing it as a frontier that poses unique challenges and requires careful consideration in our evolving technological landscape.

ETHICS FOR ARTIFICIAL INTELLIGENCE

Technology is a double-edged sword, offering opportunities for both progress and harm. While it holds the promise of improving our lives and solving myriad challenges, it also has the potential for destructive ends, even posing an existential threat to humanity. These ethical dilemmas stem from the inherent ambivalence of technology, which can be used for either positive or negative purposes, depending on the intentions of its creators and users. At its core, technology serves as a neutral tool with no inherent morality. Its ethical ramifications are dictated by those who design, implement, and use it. Moral agency ultimately rests with the individuals who wield these tools, not with the technology itself, much like a simple knife that can be used for culinary purposes or for violence, or nuclear energy that can be used for peaceful power generation or catastrophic devastation.

The ethical dilemmas surrounding artificial intelligence (AI) are of paramount importance due to its unprecedented capabilities. While AI systems demonstrate remarkable precision and efficiency in performing tasks, they also harbor vulnerabilities to unethical exploitation. For instance, AI can be used to create targeted phishing campaigns, develop sophisticated stalking techniques, and generate deepfakes – synthetic audio, video, or written content designed to impersonate individuals and deceive others.

Isaac Asimov, the famed science fiction author, envisioned a future in which robots would obey a set of "laws" embedded in their programming that would prohibit them from harming humans. However, as AI continues to be developed without adequate safeguards against potential harm, this vision remains distant. Not only are AI systems being built without ethical boundaries, but there's also a disturbing trend toward designing robots for military purposes, raising deep concerns about the advent of autonomous weapons capable of ending human life without human intervention. These ethical considerations extend beyond

the realm of artificial intelligence itself to the behavior of the people involved in its development and implementation. Entrepreneurs face moral dilemmas when deciding whether to deploy industrial robots that may lead to job displacement or hinder future employment opportunities. Similarly, regulators are tasked with establishing ethical frameworks for the development and use of AI systems to ensure that their application is for the betterment, rather than the detriment, of humanity.

Despite the potential for abuse, artificial intelligence holds promise for promoting positive outcomes, including enhancing ethical behavior. For example, AI can be instrumental in detecting and preventing of illicit activities in financial markets, such as money laundering. In healthcare, AI can improve diagnostic accuracy, tailor treatment plans, and detect early signs of disease. AI can also be an enabler of ethical behavior for individuals. By analyzing data to identify patterns that are indicative of unethical behavior, AI systems can proactively intervene to prevent harm from occurring. For instance, AI could monitor driver behavior and intervene to warn drivers or prevent dangerous maneuvers. In the corporate environment, AI has the potential to develop training resources that can guide employees on the ethical principles they should follow in their professional endeavors.

ETHICAL ARTIFICIAL INTELLIGENCE

An emerging concern in the field of technology is what we might call ethical AI. This concept is concerned not only with the behavior of human operators, but also with the behavior of intelligent machines themselves. The crux of this ethical dilemma lies in a particularly distinctive attribute: the autonomy of intelligent agents.

Once an AI system is trained to perform a specific task, humans relinquish control over the decision-making processes and behaviors, resulting in what can be described as a "black box" scenario. Autonomous machines transcend the intentions of their creators and users and possess cognitive capabilities similar to those of humans. Autonomy, along with other cognitive functions, is emerging as a focal point of ethical discourse, necessitating a deeper examination of its implications[1]. Beyond the typical ethical considerations associated with technology, a more profound ethical dilemma arises from the fact that intelligent machines possess the ability to make decisions and engage in autonomous actions, potentially leading to morally objectionable choices. This underscores the urgency of addressing unresolved questions about the ethical implications of artificial intelligence. Consequently, the concerns expressed by prominent figures in the high-tech industry, such as Bill Gates (Microsoft), Elon Musk (X.AI), Sundar Pichai (Google), Geoffrey Hinton (Google), and the numerous signatories calling for a moratorium on AI development, deserve serious consideration. They advocate the establishment of universal safety protocols that are designed, implemented, and validated with the help of impartial experts. The case of self-driving cars serves as a poignant example, highlighting the urgent need to mitigate this particular ethical risk and the complexity of doing so. In 2018, a vehicle developed by Uber and equipped with an AI-based autonomous driving system tragically caused a fatal accident involving a pedestrian. This incident highlighted the potential risks that decision-making machines pose to human

1 See Grando Vicari (2021) for further reading on AI cognitive abilities.

safety. Another relevant example involves the justice system. Intelligent agents have been used to help judges make bail decisions by predicting recidivism rates. It is conceivable that in the future such responsibilities will be fully delegated to these systems, with significant ethical ramifications.

Ethical concerns extend beyond potential harm to include moral quandaries that are deeply influenced by religious and sociocultural settings. These dilemmas are inherently subjective and vary according to individual values. Furthermore, it is important to distinguish between prohibition and permission, delineating not only what machines are prohibited from doing, but also what they are allowed to do. Consider the scenario of harvesting organs from a healthy person to help a sick person. While society typically discourages harm to one's body, including self-inflicted harm, it accepts the altruistic act of organ donation. Central to our ethical framework is the principle that individuals have the autonomy to endure self-inflicted harm in pursuit of a morally superior goal, such as helping others. Giving machines the ability to set goals raises the question of whether we can give them the freedom to cause harm for a "greater" good. Such challenges can be addressed in two ways: either by giving artificial intelligence the ability to align its behavior with the ethical norms and values of a given society, effectively mirroring human ethical reasoning in that context; or alternatively, by delegating the resolution of these ethical dilemmas to a higher authority sanctioned by society for this specific purpose, following two different models – bottom-up or top-down.

THE TWO APPROACHES TO THE ETHICS OF INTELLIGENT AGENTS

Intelligent agents introduce a level of user disengagement because users often do not fully understand the machine's cognitive model, even during initial training. Additionally, understanding the decision criteria remains elusive to users. Certain challenges are solved by simple learning processes within the systems. For example, in the context of a car's autopilot, training can enable compliance with traffic laws and basic precautionary norms, such as reducing speed on wet roads. These guidelines allow intelligent machines to align their decisions with community-established rules, thereby mitigating potential misbehavior (Etzioni and Etzioni, 2017).

However, not all decisions lend themselves to such simple solutions; some require deeper analysis and ethical scrutiny. Consider the scenario of an autonomous car faced with an accident that cannot be avoided, where prioritizing the lesser of two evils becomes paramount – a classic case of the "trolley problem" (Foot, 1967). For example, the autonomous car may encounter a sudden obstacle and be unable to brake in time, forcing a choice between maintaining its trajectory and risking harm to pedestrians, veering into oncoming traffic and endangering others, or even colliding with a roadside barrier and potentially harming its passengers.

There are two primary approaches to addressing ethical dilemmas of this nature. One is to embed a set of rigid rules, similar to "Asimov's laws," into the design phase of the vehicle, mandating adherence to predefined ethical guidelines – referred to as ethics by design. The alternative approach is to enable the machine to internally generate ethical principles through learning processes – a paradigm referred to as ethics by learning.

ETHICS BY DESIGN

The first approach, known as ethics by design, involves integrating ethical rules directly into the design of the machine, embedding them in the architecture and functionality of the system. This contrasts with ethics by learning, in which the machine develops its own moral compass through experiential learning and interactions with its environment. The underlying concept is that moral principles or ethical theories can serve as guidelines for selecting the most appropriate

actions. Drawing from disciplines such as religion, moral philosophy, and psychology, researchers have identified several "moral foundations" that provide a basic framework that can be applied in different situations (Graham et al., 2013). These foundations include five basic dichotomies, supplemented by a sixth: Care/Harm (helping or harming others), Fairness/Cheating (maintaining equitable relationships), Loyalty/Betrayal (being loyal or betraying individuals), Authority/Subversion (respecting or challenging authority), Sanctity/Degradation (maintaining moral purity or moral compromise), Liberty/Oppression (granting autonomy or oppressing others).

While this approach seems straightforward in theory, its implementation in practice proves extremely complicated. Simple moral principles are often obscured in complex scenarios where not all situations can be predicted, and not all probabilities or utilities are easily calculated. Additionally, conflicts between ethically held values can arise, exemplified by dilemmas such as the choice to save one life at the expense of another in a life-or-death scenario. It should be noted that these ethical dilemmas extend beyond the behavior of artificial agents to include human actions. In such cases, it is better to have imperfect or limited rules than to operate without any rules at all. These rules can serve as a foundation upon which expert groups, societal norms, religious considerations, and individual sensibilities can collectively contribute to the formulation of general ethical principles.

> A more profound ethical dilemma arises from the fact that intelligent machines have the ability to make decisions and engage in autonomous action, potentially leading to morally objectionable choices.

To address the challenges posed by the top-down approach, two ethical frameworks are commonly proposed: consequentialist and deontological. The consequentialist approach focuses on assessing the overall positive and negative consequences of an action, with the goal of maximizing positive outcomes while minimizing negative effects. However, weighing pros and cons can be subjective and difficult to quantify accurately. In contrast, the deontological approach emphasizes adherence to principles and rules that govern actions, ensuring consistency with ethical principles and respect for fundamental rights. When faced with conflicting actions, a higher-order principle is invoked to resolve the dilemma. A comprehensive assessment of all potential consequences is complex and not always feasible. Certain situations defy adequate representation in abstract terms and require context-specific decisions. Moreover, ethical complexities may lack definitive solutions. For example, the value of life transcends individual worth and includes contextual factors that influence our assessment. Different perspectives shaped by religion, culture, and personal beliefs lead to different interpretations and solutions.

ETHICS BY LEARNING

A distinct approach to ethical decision-making is ethics by learning, which empowers intelligent agents to develop moral agency, enabling them to distinguish between right and wrong and to make morally sound decisions autonomously. This approach promotes the creation of inherently ethical systems in which ethical principles are embedded in their basic operating framework and guide their decision-making processes. Proponents of this approach advocate the cultivation of ethical principles in intelligent agents, analogous to the learning process of a child. They envision learning systems in which neural networks receive positive and negative reinforcement and acquire ethical principles through experiential learning.

This involves exposure to different scenarios and receiving feedback, both positive and negative, to shape their ethical understanding. However, there are significant challenges to implementing this approach, primarily due to the time-intensive nature of the learning process and the limited scope of laboratory situations. Developing such procedures would be laborious, require significant resources, and yield highly uncertain results. Neural networks, however, have the ability to learn from real-world data, bypassing the limitations of laboratory settings. They can analyze vast amounts of data about human actions and the associated ethical judgments that are collectively determined by human society. Neural networks don't directly internalize abstract moral principles; instead, they learn from observed human behavior and identify patterns of behavior that are considered ethically acceptable or unacceptable.

Therefore, this approach relies on learning from observed human behavior rather than directly encoding moral rules. This allows machines to analyze large datasets of different human actions in different contexts, recognizing the diverse nature of human ethical judgments, which are shaped by factors such as religion, cultural background, personal experience, and societal norms. Different cultural and religious communities may have different ethical frameworks, and neural networks can adeptly recognize and adapt to these different codes and norms prevalent in different social groups. In societies characterized by different cultural traditions, ethical beliefs, and religious affiliations, machines would exhibit nuanced patterns of behavior that reflect the ethical diversity inherent in the human societies with which they interact.

A notable challenge to this approach, however, is the sheer volume of data required for AI to develop a robust understanding of ethical behavior. There's no guarantee that the system will encounter a comprehensive range of situations necessary to fully develop its moral compass and effectively navigate complex ethical dilemmas. Furthermore, individual decision-making often prioritizes self-interest. A study by Bonnefon, Azim, and Iyad (2016) found that the majority of individuals surveyed expressed a preference for purchasing an autonomous car programmed to prioritize saving the lives of its passengers over the lives of a greater number of pedestrians. A significant hurdle associated with the bottom-up approach is the likelihood that imperfections and biases inherent in human behavior will manifest themselves in machines that learn from human behavior. For example, by learning from human behavior AI systems designed for personnel selection may internalize and perpetuate biases, particularly those related to gender and race, that are unfortunately prevalent in human societies.

A POSSIBLE SOLUTION: HYBRID SYSTEMS

As shown, both ethics by design and ethics by learning have significant limitations. One conceivable approach is to defer final decision-making authority to human judgment, particularly in scenarios too complex for effective *ex ante* regulation or autonomous resolution. However, this strategy isn't always feasible. Giving AI systems excessive decision-making autonomy may preclude timely human oversight, leading to concerns about addressing ethical dilemmas that arise between decision and execution.

The limitations of existing approaches point to the need for a more nuanced strategy. While intelligent agents may be able to autonomously define their goals, this does not mean that machines have intrinsic or independent goals. Combining elements of both ethics by design and ethics by learning allows for the establishment of boundaries and guidelines that are consistent with predetermined ethical principles. Autonomy doesn't mean absolute freedom from human intervention; clear boundaries can be established for intelligent systems to operate within. Once established, the system can autonomously determine methods and contingent responses.

However, bridging the gap between the two approaches requires a hybrid system. Rather

than a binary choice, the key is to integrate both methods synergistically. Certain rules need to be pre-programmed, especially for aspects that are not amenable to bottom-up learning, such as legal requirements or the correction of biases in training data. Conversely, machines can autonomously infer moral principles from observing human behavior. To achieve this, it is necessary to move away from rigid adherence to either approach. Ethical guidelines should be explicitly outlined, especially for areas that are resistant to data-driven learning, while AI systems autonomously gain moral insight from human behavior and societal norms. Rather than being mutually exclusive, these approaches should be effectively integrated to ensure that machines exercise decision-making authority based on principles learned through data-driven learning within a societal regulatory framework.

MANAGERIAL IMPACT FACTOR

- **Define clear ethical guidelines**: develop and document clear ethical guidelines that outline the non-negotiable rules and boundaries within which AI can operate, informed both by predetermined ethical principles and by continuous learning from human behavior and societal norms.
- **Implement mechanisms for human oversight**: establish protocols for timely human intervention, particularly in complex decision-making processes, to ensure that decisions are consistent with ethical and societal norms.
- **Develop Adaptive Learning Capabilities**: invest in technologies and methodologies that enable AI to learn from real-world interactions and adapt its operations within established ethical frameworks.
- **Continuous review and update**: periodically review and update the ethical guidelines and learning algorithms to reflect changes in social norms, regulatory requirements, and technological advances.

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SERGIO SCIARELLI

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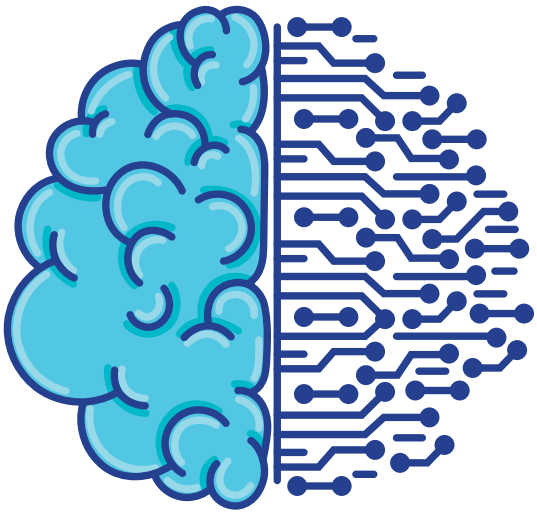
Key Factors for Managing AI in Business



With a particular focus on the impact of Artificial Intelligence (AI) in business management and its central role in decision automation, this article explores the importance of AI in business. The author outlines AI's role in supporting human intelligence rather than replacing it, particularly in operational and decision-making processes. In addition, the article examines the impact of AI on business organizational models and the collection of personal data. In particular, it highlights the paramount importance of business ethics in mitigating the downsides of large-scale data aggregation.

ARTIFICIAL INTELLIGENCE (AI)//AUTOMATION//INNOVATION//PRIVACY//ETHICAL GOVERNANCE

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Some advances in knowledge and its application undoubtedly arouse more interest than others, raising many hopes for solutions to humanity's problems. In this case, we are referring to "artificial intelligence," which has become the subject of debate and competition between the supporters and detractors of a discipline that is now at the center of the world's attention because of its importance and the pitfalls it conceals. Although artificial intelligence (AI) was first discussed in the late 1950s, when American mathematician John McCarthy coined the term that has become the subject of heated debate in recent years, it is only recently that AI has been brought back into the spotlight by developments that were unthinkable just a short time ago. In

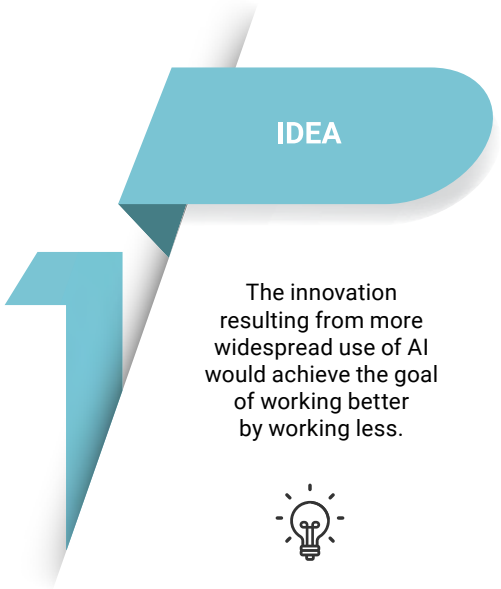
order to understand the reasons for the great interest worldwide on the part of institutions, politicians, administrators, and academics, we need only mention the contributions that have led to the distinction of several versions of the technology, among which one of the most advanced is generative intelligence, known as GenAI, which is capable of imitating human creativity.

There are therefore many points that could be addressed in a general analysis of the subject. However, given the venue, we think it is preferable to focus on the consequences of the proliferation of AI in the corporate world, and in particular to reflect on how it affects the exercise of the managerial function.

The impressive development of artificial intelligence is indeed linked to the progress of information technology in the field of automated decision-making, with important consequences for production sectors, organizational models, management practices and functions. Before going any further, however, it is worth clarifying the relationship between artificial intelligence and human intelligence in decision making and establishing the proper boundaries between the two. Indeed, the goal of AI cannot be to replace humans, but to support them in operational and decision-making processes at a qualitative level of efficiency.

This is most evident in the increase in the level of automation and in the "routinization" of a series of decisions, leaving the more "problematic" decisions to humans. Thus, it must be agreed that the recent development of information technology and automation applications will ensure an increasing contribution not only to the implementation of operational functions, but also – and this is the profile of greatest interest – to managerial functions, making the most of the collection, accumulation, and processing of useful data to operate and make decisions more efficiently. The application of AI to business processes will free the manager from repetitive questions, for which it will be easier to arrive at optimized solutions with the help of algorithms based on experience. By systematically collecting the available, increasingly numerous and refined data, it will be possible to "structure" many decisions and focus the attention of business leaders on problematic strategic and organizational choices.

With the development of AI, the degree of automation of the IT process is increasing, just as it has long been the case in the field of production organization. In short, the process of automation is moving beyond the factory floor and into the upper echelons of management. Automation can only mean efficiency and the replacement of humans in tasks that can be performed by machines. This has the potential to reduce the number of employees, as companies are already experiencing on a large scale. Thus, the current evolution would result in a generally positive effect of increased productivity, which would require a profound transformation of work patterns on the one hand, and (unfortunately) a significant loss of jobs on the other. According to the rash predictions of some futurologists, this loss could even be in the hundreds of thousands



in a few years. Even in the face of a less catastrophic expectation, companies should begin to respond to this evolutionary process by imagining and implementing interventions aimed at adapting business processes to the advance of technological progress, such as redesigning managerial profiles or reorganizing the working week. In fact, it is likely that a significant reduction in work activity could be achieved, as is already happening in the companies that are most likely to spread the motivational benefits of a reduction in the working week for the same compensation (see the experiment initiated by Luxottica and, more tentatively, by Tod's). The innovation resulting from a more widespread application of AI would thus make it possible to work better by working less. By expanding general knowledge, time spent on mundane tasks is reduced, thereby expanding the scope for innovative endeavors, and pushing the boundaries of creative behavior.

Returning to the role of AI in corporate decision-making, and to the individual or group problems of adaptation and conversion to a new organizational model, it has already been mentioned that, in general, information technology as a decision-making tool has limitations in the case of choices that require prior "structuring" or framing.

Thus, AI can assist in decision-making, but it cannot make the final decisions. In other words, there seems to be a very limited space for "thinking" machines capable of dealing with difficult and delicate options, often involving ethical considerations that could in no way be included in decision-making processes based on more or less proven case histories or algorithms. Reality is always more complex than history and statistics. Therefore, any attempt to base decisions on past data about problems that are not always assimilable to those most frequently encountered in the management of any organization operating in a dynamic and unpredictable environment seems ambitious. When claiming that AI can "solve problems," it is therefore important to clearly understand the contexts and limits within which this result can be achieved, distinguishing between decisions of a strategic nature, for which the contribution of human intelligence remains irreplaceable. This is all the more true when the choice has to do with moral values related to the ethics of the person responsible for the decision.

The main advantages of AI are obtained by leaving ample space for the collection of both general and personal information.

The fundamental problem remains, above all, that of guaranteeing confidentiality through formulas that regulate access, and thus concerns all those forms of protection that safeguard the wealth of information accumulated and enriched over time. In fact, access to such a repository of data, for purposes of commercial promotion or political hostility, should never take place without the direct consent of those concerned. Information is power, and the accessibility and availability of ever-increasing amounts of data can have both positive and negative effects on those involved in corporate governance.

Specific reference is made to protecting and respecting confidentiality in the collection and use of information and limiting the power to influence human behavior. In this respect, references to management style and the management of relationships with customers and suppliers may prove useful.

The manager may exert unethical pressure on employees, suppliers, and consumers for the very purpose of applying AI.

In the first two cases, these pressures could arise from the bargaining power that comes from having information about employees and suppliers, and from the demand for greater productivity and convenience in the contractual relationship; in the third case, consumers (to be turned into customers) could be pressured by business techniques that lack any ethical principles. Instead, ethical management should be able to establish lasting cooperative relationships with external stakeholders, i.e., suppliers and acquired customers. The most important

relationship is undoubtedly that between management and the world of consumption: many choices can in fact be conditioned by what responds to the technique of "profiling" the decision-making agent, based on the collection of personal data, which should in any case be protected with respect for privacy. Data that is legitimately collected on the basis of knowledge of past behavior and choices, but that should remain private in any case, through the creation and control of mechanisms of protection against unjustified access by third parties.

Who is not a frequent online shopper today, who is not surprised that sales organizations such as Amazon, eBay, and Alibaba, to name a few, create buyer profiles and, based on them, repeatedly and annoyingly solicit further purchases? In this way, companies, especially large and very large ones, can actually influence consumers in their choices of where to spend their income, what needs to be met, and what products to buy. How can the fundamental right to privacy and the legitimate use of information be demanded and guaranteed without compromising the freedom of choice of consumers, citizens, and voters? In reality, established laws, norms, and constraints will always encounter obstacles to enforcement or opportunities for misconduct and violation of inalienable rights, which is why the guiding and supporting role of ethics, with the affirmation of its moral values, is essential.

The existence of too many databases, too many sources of information, too many media, which are nonchalantly used for purely commercial or political purposes, essentially risks generating much higher costs than the substantial benefits guaranteed by technological progress.
The latter, as in the case of AI, must always be an opportunity, not a threat, and must be properly regulated in order to be truly beneficial.
The ultimate goal, then, is to ensure that AI does not lead to the sacrifice of privacy, the compression of intelligence, which in its fullest sense can only be an exclusive and inalienable attribute of the human mind, and, finally, to the decay of moral values, which are fundamental to implementing governance models adapted to technological progress.
It is therefore understandable that institutions at various levels are concerned about innovations in the information cycle that could degenerate if not properly regulated.
At the political level, laws and regulations are the tools to control and even facilitate the proper use of AI, but they do not seem sufficient in this case because of the difficulty of designing and implementing adequate measures. Business ethics must come to the rescue, meaning that an effective balance between advantages and disadvantages, or rather between opportunities and threats, can only be achieved through the moral values of those involved in business.

MANAGERIAL IMPACT FACTOR

- **Automation of operational decisions**: AI enables significant advances in decision automation, allowing managers to focus on more complex and strategic decisions.
- **Increased efficiency and productivity**: applying AI to business processes reduces the time spent on routine tasks, improving overall efficiency, and increasing productivity.
- **Reorganization of management models**: AI requires a reorganization of work models and management profiles to adapt to technological advances. Organizations need to anticipate and manage change and consider interventions such as redesigning management roles.
- **Ethical issues and privacy**: AI raises ethical questions about the collection and use of data. It is critical to ensure the confidentiality of information, protect personal data, and avoid unethical influences on employees, suppliers, and consumers.
- **Key role of business ethics**: business ethics become critical in guiding the proper use of AI. Managers must balance the technological benefits with the protection of privacy and the preservation of moral values that are fundamental to balanced corporate governance.

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A Learning Orientation to Improve Impact Across Sectors

Learning plays a critical role in fostering interdisciplinary collaboration and impactful outcomes. This article presents a comprehensive learning framework that includes four interrelated steps: developing skills within communities to build expertise, facilitating dialogue across communities to share and expand knowledge, fostering interdisciplinary dialogue to challenge and refine best practices, and engaging in reflexive learning for personal and community transformation. Emphasizing the importance of situational learning, dialogic learning, and reflexive practice, the article argues for an intentional and iterative engagement with learning to improve the quality of relationships, spur innovation, and increase impact across sectors.

INTERDISCIPLINARY COLLABORATION//COMMUNITY OF PRACTICE//DIALOGIC LEARNING//REFLEXIVE PRACTICE//EXPANSIVE LEARNING

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'If you want truly to understand something, try to change it.'
— Kurt Lewin

Over the past two decades, there has been a significant global focus on improving the impact of research on practice. Governments, research funders, academics, practitioners, and businesses all perceive value in enabling a stronger connection between research and practice to improve practical outcomes (Haley, 2021). For this to work effectively, there is a need to understand not only the roles that academics and practitioners play, but also how we can adapt to create new practices and processes. While more traditional translational work can be

effective in some application areas, such as adapting a technology to a new context, in cases where there is a need for behavioral, attitudinal or cultural change, the flow of knowledge should be multi-directional rather than one-way. This is true for many business and organizational developments, but also in areas such as health, social change, sustainability, and tackling global issues such as poverty and inequality (Beech and Anseel, 2020).

We suggest that learning is at the heart of our ability as academics and practitioners to adapt our skills and knowledge for collaborative solution-making (Beech et al., 2022). This learning is not straightforward, and in this article we set out four steps for learning to improve impact, each requiring a specific mode of learning. The steps are: honing skills in the home context; gaining insight through dialogue with practice; inter- and multidisciplinary dialogue to shape action; reflexive learning to improve our basis for future collaborative practice. The concomitant learning relates to situational learning (Lave and Wenger, 1991) within a community of practice and then between communities of practice, expansive learning to develop novel solutions (Engeström, 2018) and reflexive learning (Hibbert, 2021, 2024).

Academics and practitioners can be regarded as cultural communities with their own language, norms of behavior, identities, and fundamental assumptions (often unconscious or unrecognized) about the world and their place in it. Although there are potential compatibilities between the two communities, there is a significant possibility of misunderstanding and miscommunication (Boix-Mansilla, Lamount and Sato, 2016). For example, one empirical study found that practitioners can view academics as slow, too narrowly focused, and lacking relevance to the world of practice. Correspondingly, academics can view practitioners as lacking rigor and method, jumping to action without sufficient analysis or learning from history (Beech et al., 2010). However, it is possible to find ways to communicate and collaborate. While there are a number of factors that influence whether academics and practitioners can work together effectively, such as agreeing on a shared purpose, having access to appropriate resources, and ensuring that the collaboration is sufficiently aligned with the priorities of each organization (Huxham and Vangen, 2004), without the ability to learn at the pace and in the manner appropriate to the step being taken, the creation of impactful work is more likely to stumble than fly (cf. Sharma, Greco, Grewatsch and Bansal, 2022).

HONING SKILLS IN THE HOME CONTEXT

In practice, problems and their solutions tend not to conform to the boundaries of academic disciplines, and the understanding of how solutions might be delivered is often practical. Therefore, impactful work typically requires collaboration across disciplinary and functional boundaries. For such collaboration to be effective, a first step is for each collaborating party to have something to contribute that is valued by the others, and this typically includes some degree of practical or academic expertise.

Situational learning (Lave and Wenger, 1991) describes how expertise is developed. Although expertise involves abstract knowledge, it is also a social form of learning. An expert is not just someone who knows things; they are recognized as such by peers in their field and embody expertise not only in what they know, but in how they think, analyze, and practice. For practitioners in any field of expertise, there are accepted, often tacit, ways of being that lead to produce new knowledge that is cutting-edge rather than mundane.

Academic fields are not only realms of theory, but also realms of practice in which communities develop their methods (skills), methodologies, agreed-upon knowledge, and agreed-upon areas of debate (Beech, 2022). By becoming part of the academic community in a field, an academic adopts values and attitudes, is socialized into understanding what is most important and becomes more skilled in methods and knowledge development over time. The same is true in practice, as communities refine best practices, build shared (vicarious) experience

through exemplary cases, and internalize behaviors that are infused with the accumulated knowledge of the community. In this way, people move through the stages of apprentice, skilled, and then advanced practitioner (Lave and Wenger, 1991).

The fact that mistakes can be made and that the supportive social environment of the community keeps people motivated and encourages perseverance are crucial and liberating aspects of community-based learning. A limiting factor, however, is that while there may be debate and disagreement in communities, the emphasis is on agreement and learning the way things are done. This means that assimilative and "linear" learning are easily supported, but disruptive learning may require exposure to a different way of thinking or practicing (Engeström, 2001). When collaborating with experts from other fields, the insights and knowledge gained from disruptive learning enable colleagues to contribute something of value. Example 1 shows someone entering academia from a practice background. As an established professional but a newcomer to the academic world, their account highlights transitions into and through roles and ways of being in the context of the home community.

GAINING INSIGHT THROUGH DIALOGUE BETWEEN COMMUNITIES OF PRACTICE

Adopting a worldview and a particular focus of interest that does not easily translate to other academic fields or to practice is a natural consequence of immersing oneself in a community of practice. The effort to stay current and at the forefront of a community of practice makes it difficult to engage with others who have different worldviews, interests, theories, and methods. The learning challenge in this step is to open one's focus to perceive potential contributions that could be made to others' goals, and to open one's expertise as a resource for the other community. Contributing to a collaborative outcome will rarely be a simple "packaging and delivery" of existing knowledge. It will entail using our methods to adapt what we know to offer insights that are defined as useful by the receiver rather than the sender.

Dialogic learning is a form of interaction that leads to new insights or perspectives. Dialogue can play several roles in learning, including a coaching mode in which the coach elicits from the learner insights that the learner is capable of making but

EXAMPLE 1

HONING SKILLS IN THE HOME CONTEXT

"... I'd worked in industry for some years, then did a PhD.... but when I took my first academic post, I found the strangest things helpful in learning how to "be" in a room as an academic: it was a very different way of being. When I went to conferences and seminars, I found that listening hard to the questions that colleagues asked was perhaps more informative than listening to the presentation – the questions were where I could see the years of experience, the critical thinking, the different onto-epistemological positions of people, and how that affected what they brought to a theoretical or practical problem.

I was struck by the kindness, openness, and generosity of some senior colleagues in particular – how they used their curiosity to work with presenters to understand what the presenter was trying to do, where they were coming from, and why they thought what they were doing mattered. There was nothing to prove, just things to discover and a theory to unpick. I found this way of being very different from the world I'd come from. I began to realize what a deep onto-epistemological and theoretical understanding of an area actually looked like – how it was embodied and performed as 'professorial' - and that the only way you could really achieve this was by sharing your knowledge with people who were genuinely curious about what you were trying to understand. All these years later, I'm now co-director of a research center at my university which helps Early Career Researchers from around the world, using the particular theories I use, to hone their skills in theorizing and exploring the world by putting these theories to work in very practical settings."

has not yet made. This involves learner-centric questioning that allows the learner to see new applications or implications of their knowledge, thereby expanding knowledge (cf. Mason, 2012). In some contexts, debate can be a form of dialogic learning in which two opposing points of view are tested against each other. The hallmark of dialogic learning is that it is not a process in which one actor or community imposes its view on the other and the other resists. Rather, it is a process in which engagement leads to a new way of understanding, which could be a synthesis of the two views or something entirely new (Hibbert, Siedlok, and Beech, 2016). In collaborative settings, dialogue is often based on an intense interest in what the other has to contribute. This can lead to a new shared output, or it can lead to a change in the internal perspective of the "receiving" community as a result of what it absorbs from the other. This is not necessarily a traditional exchange between communities, but can be a process in which one offers its expertise to the other as a resource, which may then be interpreted and used in a partial and "inaccurate" way. From a conventional perspective, this might be regarded as problematic learning, but from a dialogic perspective it can be highly productive, as one community adapts and absorbs useful elements of the other's expertise, even if they do not conform to the mode of knowledge that led to the expertise being developed in the first place. This recalls Galison's (1997) conceptualization of trading zones, in which, in his case, theorists, experimentalists, and instrument makers engaged in scientific research do not exchange expertise, reach a shared perspective, or engage in synthetic learning, but operate in a zone in which the value of what each contributes is determined by the other. In Galison's approach, there is no universally agreed-upon value for the given "knowledge objects," only an agreement on their exchangeability. One challenge in this type of learning is that experts must operate with a low ego and must not expect others to give the knowledge they are using the respect that would be due in their home community. In a sense, it less about exchanging and more about giving.

The insights gained from this learning phase can refine the framing and definition of the opportunity or problem to be explored, the methods to be used, and the intellectual and practical resources to be drawn upon in taking action. In Example 2, an academic reflects on the experience of working with senior policy makers. There is a learning transition

EXAMPLE 2

GAINING INSIGHT THROUGH DIALOGUE BETWEEN COMMUNITIES OF PRACTICE

"... When I started working with civil servants and policymakers, it wasn't long before I realized, no.... I was 'told' actually that I had to change the language I used. I was so used to talking to my own community [of scholars] and using all the peculiar language associated with economic sociology.... And then suddenly, I was talking to this group in the Cabinet Office, and one of them just said, "I haven't got the foggiest idea what you're talking about" .... and this person was a real expert in communications technologies, and it hit me.... if he started talking about all his kit, like I'd been talking about its socio-economic transformation, then there is no way I'd understand him either. That was a transformative moment for me. Being an expert in this policy context meant using minimal technical language. ...I now have a rule of three – I allow myself to use no more than three theoretical terms and then, only if I have time to introduce them, give a one-line explanation (which always feels compromised), and a practical example. ... I went to talk to the Ministry of Defence once – they gave me one slide to summarise 15 years work, and they insisted that half the slide had a photo of me on it... so there are very different communications norms. Having the right questions at hand, to help you understand and reveal those norms can be helpful. These questions – how are you understanding this problem? How are you understanding x or y? What brought you to this understanding of x? - can help you open a dialogue, which always changes what you end up saying, and thinking."

in which they recognize that their expertise can be helpful in principle, but in order to connect with others, the language needs to change. However, it is not just a matter of translation; the academic also learns a different way of being and develops their own rules of behavior that enable a productive learning dialogue.

INTERDISCIPLINARY DIALOGUE TO SHAPE ACTION AND NUANCE IDENTITY

The next phase of learning may involve what Engeström (2001) calls expansive learning. Expansive learning is not cumulative, linear learning. Rather, it is learning that influences both what people do and who they are (Illeris, 2014). It does this by questioning not only what knowledge is used, but also the rules that underpin the development of knowledge in a community.

Engeström examines a case within health and social care communities where collaboration efforts faltered. The dialogic process they engaged in was aimed at improving the flow of patients/service users. However, the dialogue encountered periods of discord, defensiveness, and the imposition of one view over another, leading to disruption. The breakthrough came when one participant recognized that a protocol inherent to their profession was hindering the other community by altering the identities of patients/service users as they transitioned from health care to social care, profoundly affecting the professional self-identities of both communities. For healthcare professionals, success was defined in terms of patient care, while for social workers it centered on empowering service users. These different perspectives led to different degrees of agency being attributed to patients/service users, with protocols assigning patients and practitioners to different roles, with different risks, statuses, resources, and targets. Failure to manage risks and meet performance targets had significant implications for professionals' self-esteem and their respective fields. As a result, the change extended beyond behavioral adjustments and affected professional conduct. This kind of consequential learning is non-linear because it involves a combination of shifts in knowledge, skills, social dynamics, and identity. It is a form of dialogue in which self-transformation, though potentially nuanced, is achievable through engagement with others.

This phase of learning produces insights, but more importantly, it can reorient communities, often in subtle but meaningful ways that shape future practices and approaches to impactful work. It does not require experts in one field to become experts in another, but rather an orientation to discern the specificities of different disciplines/practices as they relate to the subject/event to be changed, along with an awareness of cultural and procedural differences – and the ability to bridge those differences as needed (Siedlok, Hibbert and Sillince, 2015). In Example 3, an academic reflects on learning from and with a different academic community. Transitional learning involved embracing the freedom to deviate from the norms of their home community, a form of risk-taking that can feel very uncomfortable at first. Over time, however, this process led to the development of a new methodology that facilitated new and further research and practice.

EXAMPLE 3

INTERDISCIPLINARY DIALOGUE TO SHAPE ACTION AND POTENTIALLY NUANCE IDENTITY

"...I always describe myself as an interdisciplinary researcher. It's important to me, because I've had to invest significant effort into understanding not just what other disciplines do, but how they work and how interdisciplinary researchers work – which is different again. I now do some things that seem a bit weird or 'unscientific' when I work with my own scholarly community – because I've had to adapt to work with, and sometimes around, others. It was only after I'd started working with plant scientists that I started to call some of the work I was doing with SMEs 'experiments'.... We developed this idea to create a demonstrator, and so we could 'experiment' with the business model as well as the light, heat and planting."

REFLEXIVE LEARNING TO IMPROVE COLLABORATIVE PRACTICE

Reflexive practice, and the resulting learning, overlaps with the process of dialogue discussed earlier, yet delves deeper by enabling – and indeed inevitably leading to – changes in our future ways of being and doing. Reflexive practice focuses on how we engage with, understand, and are changed by experience, and how we can become more aware and present in the midst of this process – rather than letting experience shape us almost unconsciously (Hibbert, Coupland & Macintosh, 2010). Because of this focus on awareness, reflexive practice supports transformational learning (Illeris, 2014). It has both an inward and an outward focus, and both inform how we learn and change: the inward focus involves *looking at the self* to see how we are shaped in our decisions and actions by our contexts and situations, and the outward focus centers on *looking from the self* to see how we might change our ways of being and doing through connections with others (Hibbert, 2021). In this way, reflexive learning shapes social scientists and their work with others in the same process (MacIntosh et al., 2017). In other words, reflexive learning through research supports awareness, critique, and shifts in positionality for both social scientists and practitioners as they interact in the field (Hibbert et al., 2014). This in turn leads to novel ways of being that are richer in understanding, and more suitable for our interconnected existence with others (Cunliffe, 2004). These adaptive benefits stemming from reflexive learning can support better collaborative practices in the future, as illustrated by Example 4.

The potential for future collaborative practice lies in reflexive learning processes that engage our "whole selves" as we seek to "engage with otherness" and "enact connectedness" (Hibbert et al., 2014) – that is, to understand and build bridges. Engaging the whole person – including paying attention to our bodies, emotions, thoughts, and relationships, and how they influence one another

EXAMPLE 4

REFLEXIVE LEARNING TO IMPROVE COLLABORATIVE PRACTICE

"I had been appointed to run a troublesome transformation project. It was troublesome because there had been a failed attempt already, which had seen the last project leader moved out of their management post. If we didn't succeed this time around, it would cost us an important accreditation that we needed to hold on to.

It was also an important project for staff because it would have a real (and positive) impact on their working conditions. The stakes were high and some people felt that I was not up to the job – and a few wrote an email, that they signed collectively, to express this opinion to my boss. I had the backing of my boss, but I was still concerned about how to respond to the people who had no confidence in me and the process. I got an organization-wide, regular communication strategy up and running, so that hopefully I could get my message out to all staff.

We needed the confidence of the community. But I also realized – with a sinking feeling – that I would need to bring some of the people who wrote to the boss into the tent, by including them in some of the working groups that were delivering parts of the project. I did that.

I can't pretend that it was always easy in the group meetings. However, I think the people who were negative got to realize over time that I was not as hopeless as they thought, and that I really cared about the project and the staff. More importantly for me, I realized that the negative folk had a lot of useful insights about what went wrong with the previous attempt to deliver the project, and what they knew could help make a difference this time around. They cared about everyone in the organization too and became an important part of the process that made the project an eventual success.

If I had followed my immediate instinct to keep them out of the process, it would have been a huge mistake..."

(Hibbert, 2021) – in this way will provide the potential foundation for collaborative routes to impact in the future. It can also support impact in two more direct ways.

First, impact can be embodied and enabled by social scientists through this reflexive research, practice, and learning as they collaborate and connect with others in academic contexts and research communities in more thoughtful and adaptive ways.

Second, future-oriented collaborative practice can include attention to the ways in which reflexive learning enables collaborative leadership (Hibbert, 2024) of the kind that helps us bridge disciplinary and interdisciplinary fields, manage everyday conflicts, and resolve confusion on the way to a shared understanding of the new possibilities that lie ahead.

CONCLUSION

The role of learning has been less recognized as it has grown along with increasingly sophisticated methods. Learning is not a single process, but occurs in a variety of ways and can enable and sustain personal, interpersonal, intra- and intercommunity change.

In some fields such change may be encapsulated in, for example, new technologies or products, but in the social sciences and in organizational and management practices, learning underpins changes in people, the quality of their relationships and the changes in outcomes they are able to achieve as a result.

We have suggested four steps of learning to improve impact. These are: skills honing within communities, which prepares people as experts capable of working together; dialogue between communities, which enables learning about the other and the relationship; interdisciplinary dialogues, in which "best practice" of communities can be changed; reflexive learning, which can be transformational for the self and for impactful outcomes. We are not suggesting that the steps will necessarily take place in this order or be entirely discrete. Learning in practice is often a somewhat irregular series of processes. We are suggesting, however, that we should be aware of these learning steps and use them when we encounter difficulties in engaged research projects and when we review projects and seek a new starting point for co-creating the next piece of impactful work.

MANAGERIAL IMPACT FACTOR

- **Developing expertise through community engagement:** the initial phase of honing skills within a community underscores the importance of developing expertise through practical and social learning. For managers, fostering an environment that encourages learning from peers and through direct experience can enhance the collective expertise of their teams.
- **Interdisciplinary collaboration:** effective collaboration across different areas of expertise requires recognizing and valuing the contributions of each party. Managers can facilitate impactful work by encouraging interdisciplinary collaboration and ensuring that diverse expertise is integrated into problem-solving and project development.
- **Dialogic learning for insight generation:** engaging in dialogue between different communities of practice allows for the exchange of perspectives and the generation of new insights. Managers should encourage open communication and dialogue within and across teams to leverage diverse perspectives for innovative solutions.
- **Reflexive practice for transformational learning:** reflexive learning involves a deep, introspective look at how experiences shape decisions and actions. By fostering a culture of reflection, managers can guide teams toward more mindful and informed approaches to their work, leading to transformational changes in practices and outcomes.
- **Fostering an environment for expansive learning:** creating opportunities for expansive learning, where team members are encouraged to question and move beyond traditional knowledge boundaries, can lead to significant shifts in both individual identities and collective practices. Managers should support the experimental and risk-taking behaviors that drive such learning.

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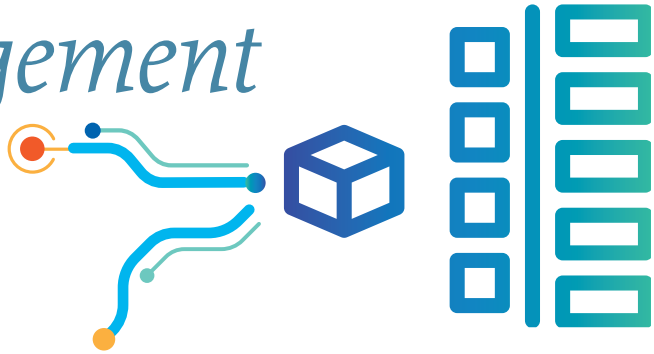
European Management Model: A Reality or a Chimera?



This essay attempts to address a simple but fundamental question for European business leaders and management scholars: is there a distinct European-based management model? More specifically, is there a single framework of management principles and practices that guides European companies? To address this open question, the article begins with a summary of the debate on this topic, which is divided into proponents and critics, and then analyzes the evolution of European policies, business schools, and academic societies over the past decades. In the final section, the author presents his view on the existence of a European management model, and invites European policymakers, companies, and schools to promote the emergence of world-class companies and organizations rooted in European culture and values.

EUROPEAN MANAGEMENT MODEL//EU POLICIES//BUSINESS SCHOOLS//EURAM//CULTURAL DIVERSITY

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About thirty years ago, the question of whether there was a European management model sparked a lively and open debate among scholars. One group argued that Europe had its own management model, separate from those of North America and Asia, but with common characteristics. Conversely, another group argued that because of the differences in formal and informal institutions among European countries, there were only national management models, making it difficult to formulate a unified European approach. Over time, this debate has gradually faded, coinciding with the escalating progress of homogenization and integration among European nations, which has significantly

increased its relevance. Meanwhile, the European Union (EU) has expanded to include Eastern European countries, strengthening the integration of the single market and promoting the harmonization of national laws and regulations. Today, the EU and its single market represent over 448 million people and generate a GDP of approximately $19.35 trillion. At the same time, globalization, which once seemed unstoppable, has suffered setbacks. The disruptive impact of geopolitical risks has been highlighted by recent events such as the COVID-19 pandemic and conflicts in Ukraine and Israel.

In this evolving economic and political landscape, the question of a European governance model is more relevant today than it was three decades ago. This question concerns a wide range of stakeholders: policymakers who have the power to foster the emergence and growth of European global leaders; entrepreneurs and managers charged with successfully steering European companies onto the global stage; and business schools and universities tasked with creating innovative programs and degrees to educate and prepare a new generation of European business leaders.

This paper aims to reopen the debate on the European management model, recognizing its potential to inform strategic decisions about the future of education and management in Europe. The first part of this article summarizes the debate on the existence of a European management model, while the second part outlines the evolution of the EU, the characteristics of European business schools and universities, and the role of the European Academy of Management (EURAM). Finally, the conclusion proposes initiatives aimed at fostering the development of world-class European companies and organizations rooted in European values.

THE EUROPEAN MANAGEMENT MODEL DEBATE

Scholars began debating the possible existence of a distinct European management model about thirty years ago. This debate was fueled by both the creation of the European Single Market and by the growing number of comparative studies examining national management paradigms. The inauguration of the European Single Market on January 1, 1993, marked a significant milestone, ensuring the free movement of goods, services, capital, and people among its Member States. Its overarching goal was to promote business growth and streamline industry consolidation. In particular, the integration of local markets into a single continental entity served as a catalyst for the development of a European management model, according to scholars such as Calori, Steele, & Yoneyama (1995).

At the same time, governance scholars began to investigate the differences between the capitalist systems, or governance models, prevalent in the major industrialized countries (Zattoni, 2020). This research categorized countries based on the governance models they used: Anglo-Saxon, Rhineland, and Latin. While European countries were often grouped under different governance models (e.g., the UK under the Anglo-Saxon model; Germany, Austria, and Scandinavia under the Rhineland model; and France, Italy, and Spain under the Latin model), the ongoing process of homogenization and integration within the EU had the potential to reduce institutional differences between countries and foster the emergence of a cohesive European model.

This debate divided scholars, with some emphasizing the cultural affinities within European countries compared to American or Japanese counterparts. Conversely, others emphasized that the development of a unified European management model could be hindered by significant differences in formal and informal institutions.

Proponents of the European management model

Thurley and Wirdenius (1991) are pioneers in proposing the notion of a European management model, which they describe as: "recognizable patterns of managerial behavior and an approach to problem solving and decision making at all levels in organizations that establish the identity of management strategy as distinctly European, with particular emphasis on approaches to planning, implementing and evaluating change" (p. 128). They argue that this model, which is closely linked to European integration, embodies key values such as pluralism, tolerance, and a stakeholder perspective. While acknowledging potential obstacles to its emergence, they note that forces such as monetary union and EU social and political pressures could push European companies toward a common management framework.

They conclude that, despite the persistence of local practices and values, transnational companies are increasingly adopting a European model based on shared values such as promoting personal and professional development, maintaining pleasant working conditions, ensuring job security, and offering fair compensation.

Similarly, Calori and de Woot (1994) conducted interviews with top managers of Western European companies and found both significant differences and common management practices across countries. They highlighted how European companies differ from their American and Japanese counterparts in their emphasis on people's well-being, social responsibility over profit maximization, effective management of international diversity, and respect for foreign cultures. Further support for the European model comes from Calori, Steele, and Yoneyama (1995), who identify four common principles and practices. The first two are rooted in historical heritage, influenced by cultural characteristics such as Christianity, humanism, and socialism, while the last two are the result of Europe's cultural diversity. The four principles are:

i) A people-centered approach, including employee well-being, quality of work, and stakeholder satisfaction.
ii) Negotiating within the organization to build consensus and motivate people, e.g. between holding company and subsidiaries, headquarters and business units, top and middle management.
iii) Recognizing and managing international diversity through respect for foreign cultures, decentralization of decision-making, and integration of employees of different nationalities.
iv) Achieving a balance between the extremes of U.S. and Japanese management styles regarding employee relations, timing of strategic decisions, and balancing economic, social, and environmental outcomes.

While acknowledging national differences and the fact that people's primary socialization tends to occur in their country of origin, proponents of this view argue that increased cross-European interaction and experience can help reduce these differences and mitigate ethnocentrism. They believe that while management practices may vary across Europe, EU harmonization and integration will promote convergence by aligning practices to a common European framework.

Critics of the European management model

Tixier (1994) argues that there is considerable diversity in management practices across European countries. She questions the feasibility of a unified European management model based on common values such as humanism and stakeholder dialogue in the face of countervailing forces such as the pervasive influence of American management practices, although she acknowledges the potential of economic integration to promote understanding among managers of the major

differences in culture and management style. Wilderom, Glunk and Inzerilli (1996), while acknowledging a common historical background underlying European management practice, also highlight the significant differences between countries. They suggest that national differences continue to shape management styles even though Europeans share basic principles. As a result, the concept of a European management model is reduced to a simplistic categorization that is primarily used by non-Europeans. Citing differences in management styles and cultural norms between countries, Perlitz and Seger (2004) also emphasize the absence of a monolithic European management model. They argue that success in Europe depends more on adapting to local contexts than on conforming to a hypothetical pan-European model. They highlight the diversity of formal institutions across European countries, including legal frameworks (e.g., civil vs. common law), board structures (e.g., one-tiered vs. two-tiered), employee representation (mandatory, recommended, or absent), financing models (market vs. bank-based), and interests pursued (outsider vs. insider-dominated). Moreover, they show that informal institutions also vary, as there is still considerable cultural diversity among European countries (e.g., Hofstede, 1991; Trompenaars & Hampden-Turner, 2000).

Brewster (1993) shifts the focus to human resource management (HRM), arguing that European companies – unlike their U.S. counterparts –, face constraints in developing their HRM practices due to external influences. He also finds heterogeneity in European HRM policies due to differences in formal and informal institutions (e.g., legislation and culture), ownership structures, and union dynamics. Similarly, Lubatkin and Floyd (1997) examine the strategic perceptions of French and German middle managers and find similarities in strategy content but divergences in strategic behavior and organizational processes. They warn that such differences may hinder international cooperation among European companies.

THE GROWING INTEGRATION OF EU COUNTRIES

Harmonization and integration measures promoted by the EU

The European Union (EU) is a remarkable example of voluntary cooperation between countries (European Commission, 2022), and its creation serves as a cornerstone for ensuring peace and prosperity among its members. Since the early 1990s, there has been considerable, if not decisive, progress in creating a European identity in the EU. Economically, the EU's integration efforts have been substantial. The adoption of a single currency, the euro, and the creation of central institutions such as the European Central Bank and the European Investment Bank have increased monetary stability and facilitated strategic financial investment. The dismantling of border controls and mobility initiatives have made it easier to study and work in other Member States. Moreover, the expansion of EU membership, which now includes 27 countries following Brexit in 2016, has contributed to the development of one of the largest single markets in the world, incentivizing companies to take advantage of economies of scale and encouraging cross-border collaboration, mergers, and acquisitions to foster global market leaders.

In terms of legal harmonization, the EU has also made significant progress in key areas such as company law, environmental regulation, labour standards, consumer protection, education, and civil rights. While significant progress has been made in reducing disparities in legislation and public policies across Member States, certain areas, such as taxation and subsidies, remain highly divergent across the EU. Recent challenges, including the global pandemic crisis and the Russian invasion of Ukraine, have underscored the need for greater cooperation among EU Member States. The adoption of initiatives such as the Next Generation Recovery Plan marks a pivotal moment in the EU's evolution, equipping it with the tools to address current and future health emergencies

and protect its economy and citizens. The EU is proactively charting a course toward a greener, more digital future, encouraging Member States to embrace sustainable practices and technological advances.

At the same time, the world around the EU has changed significantly. Emerging economies are growing fast and three of them – China (2), India (5), and Brazil (9) – have achieved a stable position among the top 10 countries in terms of GDP. The growth of Asian economies is also confirmed by the Fortune Global 500 ranking by region, which shows the dominance of Asia (208 companies or 42%), followed by North America (153 or 31%), Europe (118 or 24%) and the rest of the world (21 or 4%). Moreover, the evolution of the international landscape reveals a growing instability due to increasing tensions and conflicts between some States (e.g., Russia-Ukraine, Israel-Palestine, China-Taiwan). These events indicate that the global economy and politics are in a phase of transition from U.S. leadership to polycentric leadership by the U.S., China, and India. Other major challenges, not only for the EU, are climate change and the use of artificial intelligence. To deal satisfactorily with all these emerging issues, the EU should strengthen its capacity to promote rapid and efficient coordinated action among its Member States.

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The role of European business schools

There are significant differences between European and American business schools. Contrary to popular belief, the origins of business education can be traced back to Europe, where the first business school, ESCP, was founded in Paris in 1819. These early European institutions emphasized interdisciplinary programs, in stark contrast to their American counterparts. While American schools focused primarily on economics and finance, European institutions emphasized a broader range of subjects to develop well-rounded leaders (Kaplan, 2014). From the beginning, the ESCP advocated a combination of theory and practice with an international focus to attract participants from different countries. In the years that followed, various schools across Europe, both private and state-funded, followed suit, offering programs that integrated theory with practical applications. Rooted in an interdisciplinary tradition, these programs included subjects as diverse as business, law, geography, technology, commerce, foreign languages, and the humanities (Kaplan, 2014).

After World War II, initiatives such as the Ford Foundation promoted the Americanization of business education by introducing American principles into European institutions. This hybridization resulted in a mixture of traditional European values and updated practices. In addition, Japanese business practices became an influential reference for both European and American companies. Recent global trends such as research-based education, accreditation systems, and global rankings have further shaped business school programs. Despite the trend toward homogenization, differences between American and European business schools remain. European institutions often offer more interdisciplinary programs, incorporating subjects such as sociology, psychology, and communications. They also tend to emphasize topics such as cross-cultural management and societal issues (Calori & de Woot, 1994). The comprehensive curricula aim to cultivate systemic

thinking, equip students with skills to address complex challenges, integrate diverse perspectives, and manage conflicting economic, social, and environmental responsibilities.

European academic societies: the role of EURAM

In Europe, management scholars are united through both national and continental associations. Notable bodies such as EGOS (European Group for Organizational Studies) and EURAM (European Academy of Management) play a central role in shaping management education and research. For the purposes of this discussion, I will focus on EURAM, which I currently chair.

Founded in 2001, EURAM's mission is to advance management research and education throughout Europe. As an international community, EURAM welcomes scholars from European countries and beyond, and is committed to inclusivity and diversity. Over the years, the community has grown considerably and now has more than 2,000 members. As EURAM approaches its 25th anniversary, it is at a mature stage with a promising future. Past President Huse (2010) articulated EURAM's founding mission to bridge European research traditions hampered by national barriers such as language, educational patterns, and academic careers. Central to this vision is the promotion of engaged indigenous research across national and cultural boundaries (Van de Ven, 2010). This approach allows scholars to apply localized management theories and methods, enables the study of organizations in their unique contexts, and fosters an appreciation of diversity across countries. Importantly, this strategy mitigates the risk of adopting theories and methods that may not be in line with local realities. EURAM's overall goal is to promote the development and dissemination of new academic and managerial knowledge with the aim of positively influencing business research and practice in European countries.

While the EURAM website outlines the wide range of activities that the Society undertakes for the benefit of its members, I will focus on the distinctive way in which EURAM aims to achieve three main objectives: developing an inclusive community of engaged scholars, promoting high quality and relevant research, and facilitating dialogue with practitioners. First, EURAM prides itself on being an open, inclusive, international and intercultural learned society. These characteristics are intrinsic to a scientific society whose members come from several different countries. Concrete examples of these values are specific initiatives for PhD students (Doctoral Consortium and Buddy Scheme) and early career researchers (Early Career Colloquium), the organization of an online pre-conference session to introduce the Society to first-time participants, the provision of scholarships for disadvantaged students participating in the Doctoral Consortium, and the design of a policy to ensure diversity and inclusion in all major committees and governance bodies. In addition, EURAM's governance is pluralistic and inclusive, based on two dimensions: the Strategic Interest Groups – which coordinate all activities around a specific topic (e.g., business for society, entrepreneurship, corporate governance) – and the major countries (i.e., those with more than 10 members) – which express their voice in the Country Representative Council.

Second, EURAM supports researchers in developing high quality and impactful research. A significant number of mid-career and senior scholars volunteer their time to share their experience and knowledge with junior participants in the Doctoral Consortium or the Early Career Colloquium. A number of scholars also give generously of their time and skills to develop the European Management Review, the Society's journal, and to make our annual conference an opportunity for developmental commentary and lively discussion. Nevertheless, in order to support the ambitious research projects of young scholars, EURAM organized a webinar on "Applying for Starting Grants from the European Research Council" in 2023. In summary, EURAM provides a rich and open platform where scholars from all countries and research traditions can present and discuss their research in a friendly and evolving environment.

Finally, EURAM aims to engage in a dialogue with practitioners, based on the conviction that engaged indigenous research can contribute to improving management practices. This is an ambitious and challenging goal, as academic research and business practice have moved in parallel or divergent directions in recent decades (Pearce and Huang 2012). To bridge this gap, EURAM organizes LABS, i.e., workshop sessions where the research frontier is critically discussed by academics and practitioners to advance their knowledge. LABS aim at cross-fertilizing the ideas of academics and practitioners on management practices to have a positive impact on business and society. However, in order to create a link between academics and practitioners, EURAM is experimenting with new formats. For example, it is organizing stand-alone events focused on a relevant topic, where participants can exchange their views and develop a deeper understanding of the phenomenon. Finally, EURAM is creating a file-rouge across annual conferences to develop a white paper with policy implications on how management studies can contribute to addressing major societal challenges.

CONCLUSION

This article has examined the discourse surrounding the European management model, tracing the evolution of EU policies over the past decades, and highlighting the influential role of business schools and academic associations in shaping European research and education. In essence, the analysis reveals that while there are certain commonalities – such as an emphasis on cross-cultural management, corporate social responsibility, and employee well-being – there are also significant cultural differences among EU Member States. Ultimately, the question arises: does the presence of common cultural traits alone imply the existence of a European management model? From a broad perspective of guiding companies and business decisions, one could argue in the affirmative. However, if we consider "recognizable patterns of managerial behavior and approaches to problem-solving and decision-making at all levels of organizations" (Thurley and Wirdenius, 1991, 128), the answer is less clear. Cultural differences, both between and within European countries, persist and are likely to continue in the future. However, we do not see this cultural diversity among EU Member States as a weakness or an obstacle, but rather as a valuable resource that enriches European companies and organizations. Indeed, the fusion

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- **Cultural diversity and national differences:** cultural diversity and national differences among European countries significantly shape management styles and practices. These differences include historical heritage, legal frameworks, board structures, employee representation, financing models, and interests pursued. Acknowledging and understanding these differences is critical to effective management in a European context.
- **European integration and harmonization efforts:** the ongoing process of European integration and harmonization, facilitated by initiatives such as the European Single Market and legal harmonization, has significant implications for management practices. These efforts aim to reduce institutional differences between Member States and promote convergence towards a common European framework. Understanding and adapting to this evolving regulatory and market environment is essential for companies operating in the EU.
- **The role of business schools and academic associations:** European business schools and academic associations play a crucial role in shaping management education, research, and practice. Their interdisciplinary approach, emphasis on cross-cultural management, and engagement with practitioners contribute to the development of future leaders equipped to address complex business challenges in diverse cultural and regulatory contexts.
- **Stakeholder orientation and corporate social responsibility:** European management models often prioritize stakeholder satisfaction, social responsibility, and sustainable practices over profit maximization. Values such as pluralism, tolerance, and a stakeholder perspective are emphasized, reflecting a broader societal concern beyond economic outcomes. Integrating these values into management decisions is essential to building trust, maintaining legitimacy, and creating long-term value for all stakeholders.

of these different cultural backgrounds with a common destiny is a cornerstone of Europe, as epitomized by its motto "United in diversity".

Based on this analysis and looking ahead, we urge European policymakers, academics, and managers to promote world-class companies and organizations with a distinctly European mindset. This means, for example, that academia should undertake research projects to explore the unique strengths and weaknesses of European companies and develop business practices to navigate cultural complexities and diverse business and regulatory landscapes. In addition, business schools and universities should design programs aimed at developing European managers into visionary leaders capable of steering global champions with a European mindset, e.g., adept at addressing both business imperative and societal concerns. Furthermore, policymakers should spread initiatives aimed at breaking down barriers to cooperation between EU countries and fostering the emergence of European global companies, research hubs, educational institutions, and innovation centers. By encouraging collaboration on ambitious projects and cultivating a sense of shared destiny, European leaders – whether policymakers, managers, or academics – can foster the rise of world-class companies and organizations rooted in European culture and values. Initiatives such as the high-level report on the EU's competitiveness coordinated by Mario Draghi are examples of steps in this direction. Echoing Roberta Metsola, President of the European Parliament, we believe that "the world needs Europe at its best."

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The Need to Transform Marketing Practices

Considering the intersection between sustainability, digital transformation and customer centricity, the article highlights the need to rethink the concept of value and business strategies. Key issues addressed include ecosystemic marketing and customer-centric digital strategies that can promote responsible marketing practices and optimize interactions, leveraging the remarkable potential of big data and artificial intelligence. It also highlights the central role of purpose marketing in promoting sustainability and adherence to social values, thereby contributing to collective well-being and strengthening market relationships from a customer-centric perspective.

SUSTAINABILITY//DIGITAL TRANSFORMATION//VALUE CREATION//ECOSYSTEM MARKETING//CUSTOMER-CENTRIC DIGITAL MARKETING

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Sustainability and digital transformation reinforce the central role of value creation, a topic that has been extensively studied in management, highlighting the need for a fundamental reassessment of both the concept of value itself and the strategies on which such value depends.

With regard to the first point, in the systemic view, the firm is an enduring institution whose mission can be traced back to the "maintenance of its existence through self-renewal, achieved through the continuous generation of economic value" (Guatri and Vicari, 1994). Today, the challenge of sustainability requires that this capacity for self-renewal be aligned with a broader understanding of value that includes not only the traditional economic dimension, but also the social and environmental dimensions, as articulated in the concept of the "triple bottom line" (Elkington, 1997). This

perspective adopts a circular approach to emphasize the interdependence and synergies between sustainability and economic prosperity.

On the second point, in addition to redefining market structures and competitive dynamics, the digital revolution has created new markets, torn down geographical barriers, and triggered processes of cross-sector convergence. It has created so-called "meta-markets" and sparked competition between ecosystems formed by networks of companies (e.g., the competition between the iPhone and Android ecosystems). At the same time, the exponential growth of available information, the sharing of consumption experiences, and the progressive reduction of information asymmetries have significantly increased consumer empowerment, resulting in an explosion of data about preferences, interests, attitudes, choices and individual behaviors.

In summary, digitization is reshaping relationships, processes, products, and analytical tools, enabling the continuous innovation that is critical to successfully addressing the expanded concept of value. This makes it possible to pursue environmental and social goals, such as reducing pollution and global warming, eliminating inequalities, and promoting well-being, culture, and tolerance in the long term, all while adhering to cost-effectiveness parameters and once again embracing a circular logic.The extraordinary potential for innovation at the intersection of digital transformation and sustainability is attracting attention across management disciplines, with marketing being particularly impacted. Indeed, based on the insights outlined in our recent work (Busacca and Bertoli, 2023), the discipline faces several imperatives, including:

- Promoting a systemic and relational perspective, complementing the traditional "analysis-strategy-decision" framework with a process-oriented perspective. This involves integrating customers, suppliers, and a network of strategic partners into a comprehensive "value constellation."
- Encouraging the cultural change and broadening of horizons necessary to navigate the new dimensions of performance. This includes cultivating a commitment to social and environmental issues, assessing their impact on demand, and communicating this commitment effectively.
- Promoting customer centricity as a core business ethos, especially within the organization itself.

ECOSYSTEM MARKETING

In advanced economies, new digital technologies have triggered a wave of profound changes in competitive mechanisms and consumer behavior, influencing management strategies across all business functions. In marketing, these technologies have an articulated impact that affects at least four different areas of innovation (Hoffman et al., 2022, cited by Dholakia and Brown, 2022):

- Facilitation of new interactions among consumers, businesses, and institutions.
- Access to data that supports new methods of analysis and interpretation.
- Use of new tools and techniques to promote and sell goods and services (such as social media, video conferencing platforms, chatbots, etc.);
- Development of new conceptual frameworks to address emerging challenges, such as identifying key platform building blocks (transaction, community, etc.) linked to consumption goals (commercial exchange, social exchange, etc.) (Wichmann et al., 2022).

All of this reflects a paradigm shift, moving beyond the conventional functional view (focused on the sequence "analysis-strategies-decisions") and process-oriented perspective (centered on the activities of understanding, building, communicating and delivering value to the customers) to an exosystemic approach as conceptualized by Sawhney (1999). This framework involved in value creation across space and time, from the firm to its partners and consumers.

The ecosystem view of marketing has profound

managerial implications, particularly in the context of the ongoing evolution of digital technologies. For example, social networks have emerged as central platforms that serve the relational needs of individuals as they navigate the online sphere. By developing innovative marketing and communication strategies that consider the relational dynamics inherent in social networks, organizations can take advantage of these digital spaces. Within social networks, users transcend their roles as mere customers and assume the mantle of stakeholders with precise interests and values. Effective engagement in this arena requires a nuanced understanding of these dynamics. Companies can effectively use social networks as conduits for the viral spread of their messages by fostering a sense of belonging among users.

The ongoing technological revolution has ushered in a new era of data storage, distribution, and analysis, presenting brands with unprecedented opportunities for customer understanding and innovation. At the forefront of this transformation is the emergence of "big data," which is characterized by three key attributes: volume, velocity, and variety. Volume refers to the staggering scale of data, often measured in pentabytes or even exabytes, which far exceeds the capacity of traditional personal computers, which typically operate in the terabyte range. Variety refers to the diverse nature of big data, which includes not only numeric data but also multimedia content such as photos, videos, voice recordings, and textual data from social media platforms. Velocity, on the other hand, refers to the speed at which data is generated, captured and processed, often in real time (Borgonovo et. al., 2015).

The analysis of big data is fundamental not only for studying phenomena and validating hypotheses on a large scale, but also for identifying emerging trends and designing innovative solutions based on the causal relationships that exist between the data. In fact, limiting the discussion of big data to its technological implications would be too simplistic. Its extraordinary potential derives not only from the proliferation of connected devices, but above all from the increasing willingness of individuals to share their preferences, interests, evaluations, and consumption patterns without hesitation, as noted by Cillo and Rubera (2021). This wealth of willingly shared information represents a treasure trove that can be further enriched through the application of artificial intelligence (AI) and machine learning models, as highlighted by Guercini (2023). The proliferation of AI platforms tailored to customer needs is yet another challenge that the evolution of technology and ecosystem marketing poses for companies. Looking to the future, it's conceivable that AI platforms could take on certain basic functions traditionally performed by companies on behalf of consumers (Dawar and Bendle, 2018). These functions include understanding needs and preferences, ensuring product quality and value, streamlining purchase and usage processes, and maintaining customer centricity. This potential shift could lead to a transfer of trust and loyalty from companies to platforms. As platforms gradually expand their reach, they could emerge as the primary, if not exclusive, conduit for consumer engagement, exponentially increasing their market power and fundamentally reshaping the dynamics for producers, distributors, and society at large.

PURPOSE AND SUSTAINABILITY

Marketing can play a fundamental role in advocating for the simultaneous creation of economic, environmental, and social value. First, by promoting the adoption of attitudes, behaviors, business practices, and consumption patterns that are consistent with the core principles of sustainability. Second, by positioning sustainability as a "source of strategic differentiation capable of ensuring the achievement of a competitive advantage and therefore better market performance" (Pastore and Massacesi, 2021, p. 29).

In this context, the concept of "purpose" becomes a strategic priority and a powerful catalyst for sustainable development. This concept underscores the societal role a company seeks to play through its brands – the impact it wants to have on society

beyond the mere utility of its products. Despite the potential for "purpose-washing" practices, as reprehensible as they are (Vredemburg et al., 2020), an authentic purpose holds immense potential for companies. First, it fosters genuine value creation and emotional resonance with consumers, which creates purchase intent, strengthens brand loyalty, and thereby fosters a competitive advantage that drives profitability. Second, a well-defined purpose expands the brand's "relational scope", opening up opportunities for market expansion into new territories. In addition, purpose is important not only for businesses, but also for individuals and society as a whole.

For individuals, both as consumers and as employees, a meaningful purpose can strengthen social orientation, self-esteem, and psychological well-being. From a human resources perspective, a compelling purpose serves as a critical motivator for employees and a key factor in attracting top talent. Purpose also contributes to societal development by unleashing resources held back by social inequalities, outdated norms, psychological barriers, prejudices, and stereotypes. People are increasingly convinced that the ethical and responsible dimension of a company's offering is an element worthy of careful consideration when making purchasing decisions. This orientation has been reinforced by the health emergency associated with the pandemic crisis. Various surveys have highlighted the emergence of a widespread demand for the values of social responsibility, safety, and sustainability. In fact, the pandemic crisis has accelerated a trend that the most attentive observers had already noted: a growing number of people – not only among the younger generations, but certainly driven by them (Bonera et al., 2023) – are increasingly convinced that individual commitment to the well-being of the community can also be demonstrated through purchasing choices, in particular by rewarding socially responsible brands.

In response to evolving customer expectations, companies are increasingly being asked to assume the role of "good citizen," going beyond purely economic objectives to embrace ethical and social imperatives. This paradigm shift requires marketing strategies and policies that balance profitability with customer satisfaction and the collective good. Consequently, marketing must effectively communicate the ethical and responsible orientation of the brand and its products using tools that enrich the company's offering in a socially responsible manner. The expectations placed on marketing activities are therefore becoming more complex. Beyond simply delivering a satisfactory product, marketing must ensure that products are "responsible" in both the short and long term. This means meeting a range of expectations, including quality, safety, authenticity, transparency of information, appropriate shelf life, and consideration for the health and moral sensibilities of the community. Furthermore, a responsible product must offer additional benefits that have a positive impact on society as a whole, such as environmental compatibility, social impact (e.g., fair trade practices) or addressing the specific needs of marginalized groups such as the elderly, the disabled or the economically disadvantaged. Responsible marketing also involves striking a fair balance between product choice and pricing decisions, and ensuring that the associated costs are shared equitably. In addition, there is a growing disdain for collusive, discriminatory or opaque pricing practices. Communication decisions are particularly critical: in addition to avoiding misleading messages, consumers expect companies to act as "responsible educators" in their communication initiatives. This means promoting awareness of the individual's role in contributing to the well-being of the community through prevention campaigns, awareness raising, and social solidarity. Initiatives such as corporate giving, philanthropy, social sponsorship, and cause-related marketing gained traction before the pandemic crisis, reflecting a broader societal shift toward ethical and responsible business practices.

Indeed, the evolving landscape of societal expectations has prompted a broader reassessment of the role of companies and brands in contributing to the well-being of society as a whole. This shift is exemplified by the American Marketing

Association's 2017 revision of its definition of marketing, which explicitly references creating value for "society at large."[1] This revision reflects a growing recognition that companies must consider broader societal interests beyond their immediate business objectives. In the past, societal expectations often revolved around mitigating negative externalities, such as environmental impacts or precarious working conditions. In recent years, however, there has been a paradigm shift towards not only reducing negative externalities, but also actively creating positive ones. Companies are increasingly expected to engage in initiatives that promote social development, including education, minority rights, the reduction of inequality, women's rights, and the general well-being of society. In short, social development. In this context, companies and brands are increasingly being asked to take a stand on social and political issues relevant to the communities in which they operate. Leading companies such as Tiffany, Ikea, Apple, Pfizer, Facebook and Starbucks have demonstrated this by publicly declaring their support for various social causes ranging from LGBTQ+ rights and transgender equality to immigration reform and anti-racism efforts (Grazzini et al., 2020).

The concept of "brand activism" has emerged in recent years, reflecting a company's explicit commitment to social responsibility and contributing to the common good (Kotler and Sarkar, 2020). Brand activism, particularly in its progressive form – "progressive brand activism" – stands for companies that actively engage in social progress and advocate for new ideas or interests that are deemed beneficial to the collective good. Social issues serve as the primary arena for brand activism. However, it should be noted that the issues brands choose to take a stand on can be socially divisive and carry inherent risks in terms of their impact on the company's image and sales (Eyada, 2020). In this sense, some have argued that the subtle distinction between "brand activism" and "corporate social responsibility" could be identified. While both involve a company's engagement with societal issues, brand activism often involves taking public positions on contentious issues that may divide public opinion. In contrast, CSR typically focuses on supporting causes that enjoy broad societal consensus, such as helping disadvantaged populations, funding cancer research, promoting child literacy, or addressing environmental concerns such as drought mitigation. The emergence of brand activism is rooted in a profound shift in consumer behavior, which responds less and less to functional needs, in favor of identity factors. Consumers seek brands that align with their cultural affiliations and belief systems, find resonance with the brand's values, and are able to see themselves in the brand. his underscores the importance for companies to imbue their brands with a purpose that transcends the mere functional benefits of their products and instead aims to improve the lives of individuals and society as a whole.

In addition to serving as a development factor, an appropriate purpose provides several benefits to the organization. First, it serves as a guiding principle or "North Star," providing a clear direction for decision-making and strategic initiatives. Moreover, when it resonates with sociallyconscious individuals, it helps create authentic value and emotional connections, strengthening relationships and fostering a sense of belonging. The effectiveness of this connection, however, depends on the relevance of the social issue underlying the purpose. In her insightful book, which includes the experiences of Unilever's "Global Social Mission Director," Myriam Sidibe (2020) analyzes the characteristics of a winning purpose. A winning purpose should:

- **Inspire tangible behavioral change in individuals.**
- **Gain significant support within the organization.**
- **Rely on an appropriate measurement system to effectively monitor its impact.**

1 According to this definition «Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large». Also the Italian Marketing Society, in its manifesto, asserts that: "Marketing is a civil actor whose impact extends beyond the economic and market sphere. It responsibly encompasses society and the environment to facilitate better exchange relationships. The ultimate goal is to reconcile economic growth with environmental constraints, safeguard individual rights, and satisfy both present and future generations."

- Foster partnerships with other for-profit and nonprofit organizations to leverage complementary resources and expertise.
- Propose actionable steps and deliver tangible results.

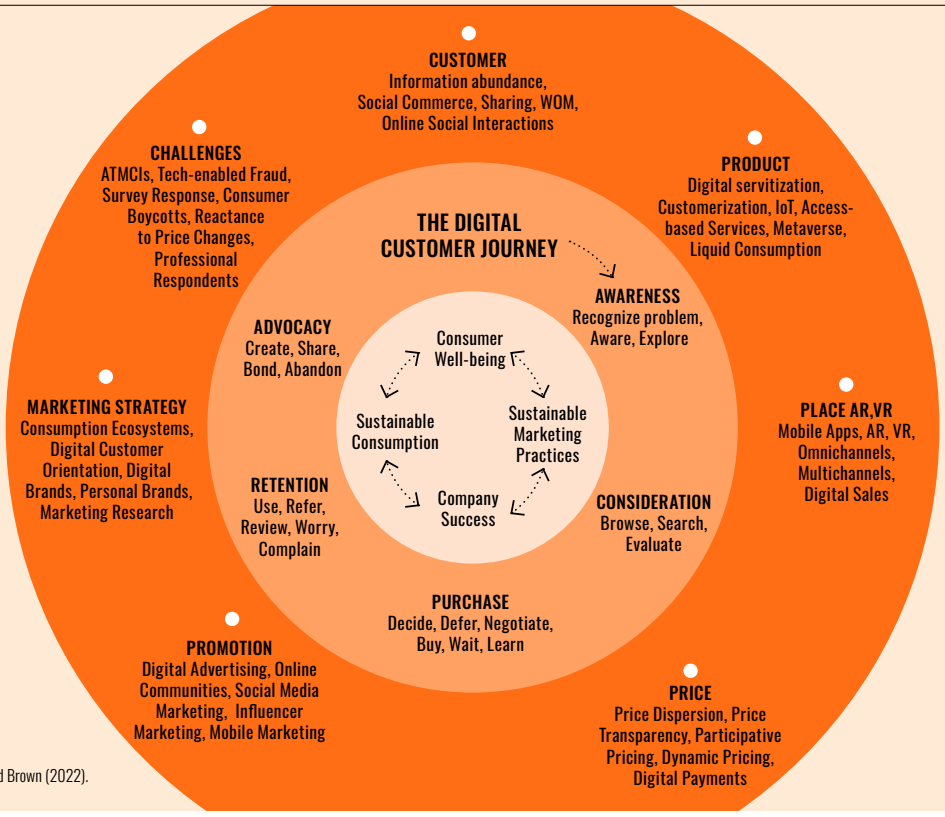
CUSTOMER-CENTRIC DIGITAL MARKETING

As emphasized by Fader (2012), "customer-centric" companies prioritize creating value for customers and place them at the center of business processes. This involves creating a value proposition that is not only relevant, but also profitable and sustainable. However, transforming an organization to embody the principles of customer centricity is a complex objective that is significantly influenced by two powerful evolutionary forces mentioned earlier: sustainability and digital transformation.

Their impact is illustrated in Figure 1, which synthesizes the concept of "customer-centric digital marketing" (Dholakia and Brown, 2022).

The inner ring, which takes a long-term perspective, highlights four key interrelated outcomes: sustainability in both consumption practices and marketing strategies/actions, customer well-being (measured in terms of value received), and business success. The correlation between these outcomes necessarily implies a long-term logic: over time, companies that prioritize stakeholder interests, particularly those of customers from a customer-centric perspective, and that adhere to ESG (Environmental, Sustainability, Governance) criteria, ultimately create value for shareholders[1]. The middle ring, comprising the different stages of the digital customer journey (awareness, consideration, purchase, etc.), extends the framework proposed by Lee et al. (2018) by explicitly recognizing

FIGURE 1 – CUSTOMER-CENTRIC DIGITAL MARKETING FRAMEWORK



Source: Adapted from Dholakia and Brown (2022).

1 Immediate in this regard is the reference to the well-known appeal made by Larry Fink, Chairman of BlackRock, to the executive directors of the world's most influential companies, urging them to exercise responsible leadership ("Purpose and Profit: An Inextricable Link").

the non-linear and complex nature of the customer decision process, influenced by the proliferation of digital technologies and social media. Finally, the outer ring includes key marketing concepts, initiatives, and digital marketing tools, grouped into main categories (marketing mix, marketing strategy, challenges, customer).

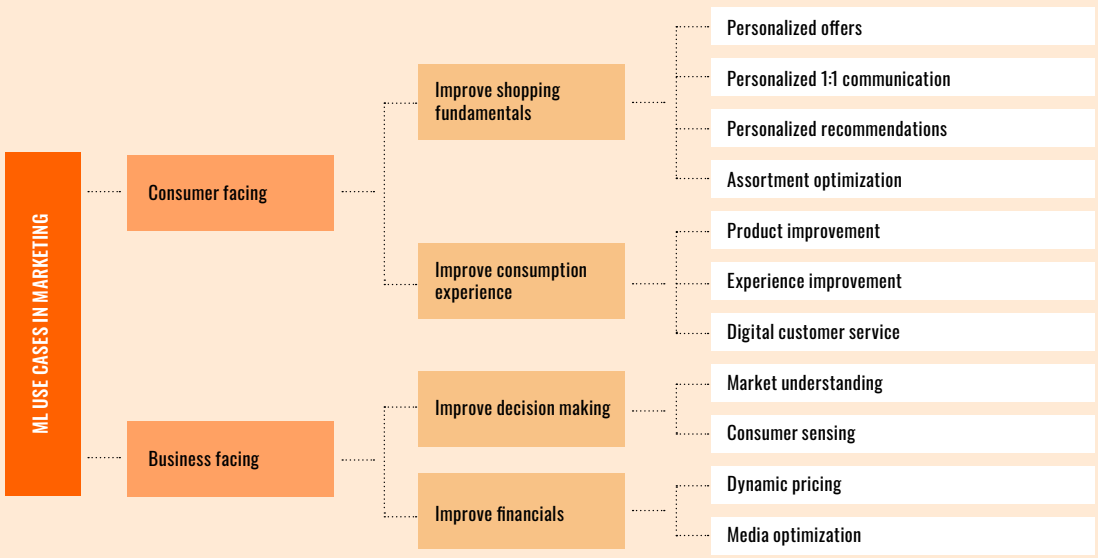
If we imagine, as Dholakia and Brown (2022) suggest, that the different rings rotate independently around the center, the alignment of their different sections highlights specific combinations of a key outcome, a stage of the customer journey, and a digital marketing concept/tool/program that management can focus on to drive sustainable value creation from a customer-centric perspective.

For example, the "Omnichannels – Purchase – Customer Well-being" trio highlights opportunities to improve the shopping experience by integrating physical and digital touch points within an ecosystem logic. From a business perspective, customer value creation moves from a competitive to a collaborative interpretation of channel management. Operationally, this means developing strategies to increase brand ubiquity (multi-point strategy) while differentiating the offer. In other words, the competitive logic typical of multichannel approaches is giving way to a collaborative one in which channels contribute to customer value creation (coopetition) by reshaping their roles and service offerings and adopting brand architectures that deploy different and integrated services, products, and touchpoints.

In terms of customer wellbeing, the potential of digital technologies is expressed by the trio "Internet of Things (IoT) – Service – Customer Well-being." Indeed, IoT technologies are allowing significant improvements in product development, services and consumer experiences, especially for product development, customer service, and customer relationship management processes.

With advances in artificial intelligence and more specifically machine learning, the collection of real-time data on individual product usage is becoming increasingly feasible. This enables the construction of predictive models and the personalization of both communication messages and user experiences, thereby increasing the value offered and, consequently, engagement and satisfaction. In this context, Figure 2 presents a taxonomy derived from an in-depth review of literature that outlines potential applications of machine learning in marketing.

FIGURE 2 – POSSIBLE USES OF MACHINE LEARNING IN MARKETING



Source: De Mauro et al. (2022).

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- **Rethink value paradigms** by re-evaluating the concept of value to include not only economic dimensions, but also social and environmental factors.
- **Embrace ecosystem marketing** by facilitating new interactions, using data analytics, leveraging digital tools, and adopting a process-oriented perspective to create value.
- **Embrace purpose-driven marketing** by prioritizing purpose-driven marketing to promote sustainability and societal values while building brand loyalty (e.g., promoting authentic purpose, addressing social issues, and communicating ethically and responsibly).
- **Balancing profitability and social responsibility** in marketing strategies by ensuring responsible product development, fair prices, transparent communications, and active engagement in societal issues.
- **Navigating customer centricity in the digital age** by prioritizing customer centricity in marketing strategies and leveraging digital technologies to improve the customer journey.

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Hearing Aid Industry The Hi-Tech Human Side

The hearing aid industry offers lucrative opportunities for companies that can create distinctive and high-quality value propositions due to a combination of surging global demand and relatively low market penetration. While innovation, technology, and data science are key drivers for success in this competitive landscape, the industry's hallmark of personalized service elevates the human touch as the true differentiator. For the customer – often a patient – the measure of recovery isn't just reflected on the decibel scale of hearing, but rather in the profound emotional impact of restored sound. In this article, we explore the structure of the hearing aid market and the customer journey, shedding light on the critical elements that drive competitive advantage.

HEARING AIDS//INNOVATION//TECHNOLOGY//DATA SCIENCE//HUMAN TOUCH

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Hearing aids are vital medical devices that offer people with hearing loss the opportunity to regain their hearing function, whether it's congenital or due to a variety of factors that result in reduced hearing capacity. Typically dispensed through prescribed channels, their use requires the expertise of specialized professionals trained to regulatory standards established in almost every country.

Over the past three decades, the hearing aid landscape has undergone a remarkable transformation, driven by relentless technological advances. Today's hearing aids are compact digital marvels, available in a variety of models carefully designed to meet a wide range of physiological and auditory needs. They offer programmable features that optimize performance through frequency modulation and skilfully manage different listening environments. They also integrate seamlessly with other devices to form comprehensive hearing

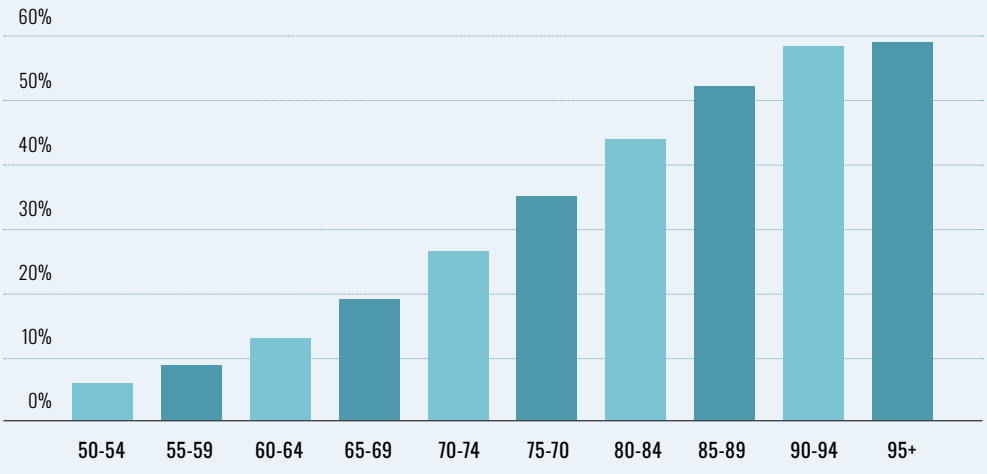
systems, and are increasingly environmentally friendly thanks to rechargeable battery technologies.

Hearing loss can be caused by a variety of factors. Congenital forms can result from hereditary factors or complications during pregnancy and childbirth, while acquired hearing loss can result from disease, infection, genetic predisposition, unhealthy lifestyle, excessive noise exposure, and the natural aging process. The severity of hearing loss is typically measured in decibels of loss. Severity ranges from mild hearing loss of 20-35 dB in the better ear, to moderate (35-50 dB), to moderate-severe (50-60 dB), to severe (65-80 dB), to profound (80-95 dB). If the hearing loss is greater than 95 dB, the loss is total and the person is deaf. It is easy to understand that an increase in the degree of hearing loss causes many difficulties for people: with a mild loss they have only minor difficulties, especially with background noises, while with a moderate hearing loss it is difficult to hold a conversation, especially in a noisy environment. Therefore, hearing loss above this level is considered a disability and people who suffer from it need treatment and rehabilitation.

WHO ARE THE HEARING IMPAIRED?

According to the World Health Organization (WHO, 2022), more than 1.5 billion people worldwide are affected by hearing loss, representing approximately one-fifth of the world's population. Alarmingly, this number is increasing and is expected to reach 2.5 billion by 2050. When focusing on hearing loss requiring treatment, such as moderate to severe cases, a worrying trend emerges in all developed regions, as highlighted by WHO data (2022). An analysis of prevalence rates shows a similar pattern across different developed regions, with figures of 7.1% in the Western Pacific, 5.5% in Southeast Asia, and 6.2% in both the U.S. and Europe. Conversely, prevalence is significantly lower in Africa (3.6%) and the Eastern Mediterranean regions. This difference can be attributed to several factors, including the comparatively younger average age of the population, despite the presence of aggravating factors such as malnutrition, disease, and infection in these regions.

FIGURE 1. HEARING LOSS BY AGE (MODERATE AND HIGHER)



HEARING AND AGE

By the age of 50, age-related hearing loss – moderate and severe – reaches significant levels (Figure 1). Before the age of 50, the prevalence of the phenomenon is lower, with minimal levels in newborns and infants (0.5% to 1 year) and increasing levels with age (3.9% in the 45-49 age group). It is estimated that one in four people over the age of 60 suffers from hearing loss.

As the population of the Western world ages and the incidence of hearing loss increases, the importance of this phenomenon is growing, creating new opportunities for companies in the hearing aid industry. In the first 20 years of the new century, the percentage of people over 65 in Europe rose from 16% to 21%; in the same period, the number of people over 80 reached 6% of the total population (Italy being the oldest country). Hearing loss of 35 dB or more affects 10% of Europeans over 50 and 40% of Europeans over 70.

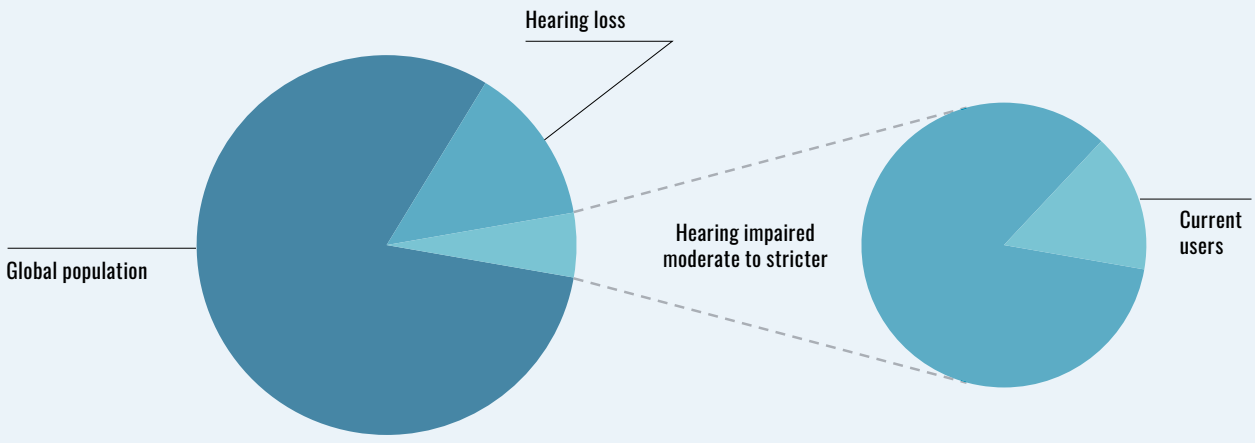
Source: processing of WHO data (2022).

If we compare the number of hearing-impaired people who need treatment with the present value of the penetration rate of hearing aids, it is clear that most potential users have not yet adopted hearing aids, despite the serious consequences that can occur (Figure 2).

Since the 1990s, scientific research has demonstrated a direct correlation between hearing loss and an increased risk of developing dementia, experiencing accidental falls due to impaired balance, and experiencing cognitive decline (Lin et al., 2023). Fortunately, the use of hearing aids to mitigate hearing loss not only addresses a major contributor to cognitive decline, but also serves to mitigate the associated risks, effectively aligning them with those of individuals with normal hearing (Morrison, 2023; Skwarecki, 2023). Despite the clear benefits, a significant proportion of those who could benefit from hearing aids do not use them for a variety of reasons. These barriers are closely linked to economic disparities in different regions, which affect overall access to healthcare – and therefore to hearing health services. Factors such as the initial cost of hearing aids, professional fees, and reimbursement systems all play a role. There is also a widespread lack of awareness about hearing health and its implications. In addition to economic barriers, societal attitudes perpetuate the stigma associated with hearing loss, hindering acceptance and proactive measures to address it. Hearing loss is often misconstrued as an inevitable consequence of aging, leading individuals to deny or overlook its significance.

While hearing loss is commonly associated with the elderly, it's important to recognize that its impact transcends age demographics. The WHO estimates that more than 1.1 billion young people are at risk of hearing loss due to prolonged exposure to excessive noise: 40% of young people between the ages of 12 and 35 may be exposed to harmful noise levels in recreational settings. Efforts by industry and national health systems are actively addressing the identified causes, leading to increased adoption rates. Increased awareness is effectively reducing the stigma associated with hearing loss, supported by rapid technological advances in the industry. In addition, increased adoption rates generally lead to cost reductions due to economies of scale.

FIGURE 2. POTENTIAL AND CURRENT USERS OF HEARING AIDS (2022)



Source: processing of WHO data (2022).

Despite these advances, the gap between those who need hearing aids and those who use them remains significant. Currently, the global user rate is less than 17%, with more than 400 million people estimated to need hearing aids. In Europe, where adoption rates are highest, only 23% of hearing-impaired people use hearing aids. Regional disparities persist, with penetration rates ranging from 10% in Africa to 19% in the Western Pacific. In the United States, the adoption rate of 17% reflects the global average.

THE HEARING AID MARKET

Currently, the total value of devices sold to end-users in the hearing aid industry is approximately 17 billion euros, with an average annual growth rate of about 3%. It's important to note that the number of users does not directly correlate with the number of devices sold, as solutions can vary between monoaural or binaural, and the durable nature of these products makes the replacement rate of existing devices a significant factor in estimating market potential, with the average life of a device hovering around 5 years.

The manufacturing landscape is highly concentrated, with the top five manufacturers dominating the market, particularly in developed countries. These multinational companies, mostly based in Europe (with one in the U.S.), are deeply rooted in the medical technology sector, and often diversified into other device-related manufacturing industries, such as hearing diagnostics, as well as broader sectors such as communication devices, electrification processes, automation, and digitalization, all of which require high levels of research and innovation. On the other hand, the distribution of hearing aids to end users is a very diverse landscape involving different types of companies. This heterogeneity is primarily due to the unique conditions of hearing aid distribution. Factors such as different regulations and standards in different countries contribute to this heterogeneity. In addition, the purchasing process for hearing aids itself adds complexity. While some markets, such as Spain and to some extent the U.S., are entirely private and uninsured, others, such as France, are fully insured. In some cases, such as Italy, the healthcare system intervenes with partial or full coverage for specific scenarios.

THE PURCHASING PROCESS

The use of hearing aids usually begins with a prescription from a healthcare professional after a hearing loss has been identified through appropriate diagnostic tests performed by trained and authorized professionals using certified instruments. It is certainly possible to discuss the need for actions aimed at raising awareness among those potentially affected in order to encourage the spread of better hearing care, including prevention, while reducing the stigma that still exists. Although this is obviously a fundamental issue, it goes beyond the specific interest addressed here. The selection of a hearing aid, including its technology and type, is determined not only by the degree of hearing loss, but also by individual characteristics such as the anatomy and physiology of the ear, as well as the cognitive and motor skills required to use the device. In addition, lifestyle preferences, needs, and expectations further influence the decision-making process, especially when considering the different activities and technological familiarity of segments of the population, including older adults who are actively engaged in work and social interactions. Therefore, in order to understand people and translate their needs into effective solutions, the systematic collection and management of data on habits and needs is critical.

Assessing these elements requires specialized technical and interpretive skills that are unique to professional staff. These include the ability to access a comprehensive and representative data set that measures needs and behaviors, coupled with expertise in the technical and technological aspects of hearing solutions. Innovations in information systems, particularly in data volume, accuracy,

and coding within interpretive models, are critical sources of competitive advantage. However, simply identifying the most suitable device for an individual is not enough to ensure its effectiveness, as many devices on the market require personalized fitting through advanced programming. This process allows the precise calibration definition of individual sound frequencies to optimize the hearing aid. The accuracy of this fitting phase is critical because even the highest quality hearing device will not provide benefits if it is not properly calibrated.

The fine-tuning of hearing aid specifications is a true customization of the listening experience, which relies heavily on the hearing healthcare professional's ability to actively listen and translate individual needs into effective solutions. While technical skills and technological tools are fundamental to analysis and interpretation, the lynchpin is the hearing healthcare professional's sensitivity to interpreting implicit needs and discomforts that may elude explicit expression and thus timely data collection.

The process of purchasing a hearing aid is complex and articulated, especially for first-time buyers. It should be emphasized that the use of hearing aids is, or should be, a lifelong commitment. Given the progressive nature of hearing loss, the need for assistance typically continues and may even worsen over time. As a result, people with hearing loss often need to replace their hearing aids periodically, either because of technological obsolescence or in search of improved solutions. Forgoing prosthetic devices, including cochlear implants where appropriate, is tantamount to giving up hope of restoring hearing function. The purchasing process is strongly influenced by the high level of psychological investment, which in many cases extends to family members and/or caregivers of the hearing-impaired individual.

The level of psychological involvement in the purchase of hearing aids is influenced by both the social visibility of the product and contextual factors related to its use. Social visibility includes subjective interest in the category, which can be influenced by negative attitudes and perceptions. In addition, the risks associated with purchasing such devices, typical of health-related products, contribute significantly to psychological involvement. These risks include functional and physical aspects such as discomfort or inadequate recovery of hearing ability, economic concerns due to high purchase costs, and psychosocial factors due to the stigma associated with the problem and the product category.

The complexity of the purchasing process is compounded by the nature of the benefits sought. While hearing aids are categorized as "research products," similar to high-tech products, their evaluation extends beyond the physical product to include a broader service component. This service facilitates experiential benefits that can only be assessed after use. In addition, improvement in hearing is not immediate with the use of hearing aids but requires a period of time for the ear and brain to adapt to the new auditory stimuli. In essence, people with hearing loss need to be active participants in their efforts to improve their hearing, which underscores the importance of the relationship with hearing healthcare professionals. These professionals play a key role in guiding users through the assimilation process and helping them adapt to their new auditory capabilities.

Throughout the life of a hearing aid, maintenance is essential to maintain its functionality, and adjustments such as reprogramming may be necessary to accommodate changes in the individual's hearing situation or specific needs. It is widely recognized that the level of commitment and the desired benefits shape the structure of the purchasing process. In addition, several other factors have a significant impact on this process. Psychological factors, for example, exert a significant influence from the outset, potentially preventing individuals from addressing the issue promptly and leading to delayed awareness. Research suggests that it takes several years on average, about four years in the American market (Powers and Carr, 2022), for people with hearing loss to seek professional help. Motivations, perceptions, attitudes, and learning dynamics further determine the intensity and duration of each stage of the process, as well as the

assessment of satisfaction or dissatisfaction after use. Social and contextual factors also play a key role and influence all stages of the journey. In addition, the process is often set in motion by external interventions, with family members often taking responsibility for identifying hearing loss issues and, in some cases, actively participating in the decision-making process alongside the individual.

In general, the dominant culture within an individual's environment significantly influences their perception of hearing loss and willingness to consider hearing solutions, often influenced by varying degrees of stigma. While systematic interventions by industry companies and healthcare systems can help reduce stigma and promote a culture of hearing, personalized interventions are needed to address the individual impact of these factors on the purchasing process. Industry personnel play a critical role in mitigating or eliminating negative effects by establishing personal, trusting relationships with individuals seeking hearing solutions. These personal, fiduciary relationships are critical in guiding individuals through the buying process. While technology and data are essential in their contribution to knowledge and process efficiency, they alone are not sufficient to create satisfaction. Ultimately, satisfaction depends on trust, which requires the creation of human connections that facilitate service delivery.

THE DISTRIBUTION STRUCTURE

The complexity and uniqueness of the purchasing process for hearing solutions requires the establishment of a widely dispersed network of retailers in markets around the world to facilitate direct access to specialists and maintain mutually beneficial relationships. The centrality of these relationships largely explains the minimal market share of online retailing in this sector, which represents less than 3% of the total global market. Hearing aid distribution also includes non-specialist retailers, which account for approximately 10% of the total market value. These include pharmacies, large-scale retail stores and optical stores that primarily sell basic amplification devices that are not programmable to meet the specific needs of the hearing-impaired.

It's important to note that technologically advanced hearing aids, as described above, are primarily manufactured by a few large companies. Most are distributed by independent, specialized stores, either single locations or small chains owned by private individuals. These stores typically employ qualified salespersons who receive specialized training and are registered according to country-specific regulations. While these specialty stores are geographically dispersed in different regions of the world, their customer base is naturally limited to the immediate vicinity of their locations. Nevertheless, together they account for nearly half of the global market share, underscoring the importance of their role in the distribution and accessibility of hearing solutions.

In addition to independent specialty stores, there are distribution networks run by the same groups as the manufacturing companies, operating extensively in single or multiple national markets or with a large number of branches in several countries. Together, they account for almost 20% of the world market. Specialized distribution networks such as Amplifon, a world leader with approximately 12% of global sales, also play an important role. Headquartered in Italy, Amplifon operates in 26 countries under various brand names. The critical role of retailers as high-value service providers is reflected in their strong brand awareness. While individuals may not readily recall the brands of equipment manufacturers, they often remember the brands of retailers because of their status as category references. The same networks belonging to manufacturer groups also have individual branding strategies, with specific brands for retailer networks that often emphasize the sound recovery function. In Italy, for example, more than half of hearing aid owners are only vaguely familiar with the brand name of their hearing device (Anovum, 2022), while the names of retailers, especially those of leading retailers, are highly recognized and

sometimes mistakenly perceived as manufacturers. The emphasis on service excellence to build and maintain profitable relationships underscores the importance of direct physical contact between hearing impaired individuals and hearing care professionals. This service component, an integral part of the hearing aid value proposition, serves as a key differentiator that drives brand loyalty. Trust is the cornerstone of brand loyalty, and in the customer-patient relationship, trust is cultivated through a deep personal bond.

Regardless of their structure, distribution networks include physical points of sale strategically located in target markets. These points of sale serve as hubs where diagnostic testing is performed, and relevant information is provided to facilitate the selection and personalized fitting of hearing aids for each person. While tools and technologies support the diagnostic and interpretive activities of professionals, they cannot replace the essential human interpersonal skills required to effectively initiate and positively complete the process. The accuracy of these processes depends on several factors, including the quality of the technologies used, the availability and efficiency of supporting information systems, and the technical expertise of the professionals involved. The widespread presence of physical stores not only increases accessibility by minimizing search barriers, but also serves as a means to promote acceptance of hearing loss, which remains a significant barrier to increased penetration.

MANAGERIAL IMPACT FACTOR

- **Proximity to customers:** establishing physical distribution networks and placing specialized professionals in appropriate locations to ensure proximity between companies and customers, facilitating solution identification and customization.
- **Differentiation through the distribution network:** leverage the physical distribution network as a central reference point for category evaluation and offering differentiation, thereby enhancing market competitiveness.
- **Building customer relationshipss:** emphasizing end-user contact and fostering trusted relationships that serve as the cornerstone for the successful deployment of advanced technologies.
- **Personalized device settings:** recognizing the importance of setting devices according to the specific needs and learning abilities of each customer, which requires operator intervention to achieve an optimal match between needs and solutions.
- **Focus on experiences and emotionss:** recognizing that the goal for people with hearing loss goes beyond the recovery of decibels and emphasizing the restoration of hearing function to enable experiences such as understanding, sharing, and deriving pleasure and emotion from hearing.

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The Corporate Debt Alarm What's Next

By analyzing the alarming increase in corporate debt, with a particular focus on the Italian, American, and French contexts, the article shows how rising debt affects the economic and capital position of companies, jeopardizing their ability to self-finance and to access new financing. The risks and benefits of possible financial solutions for distressed companies, including factoring and private loans, are assessed. Finally, the future of corporate financing structures is considered, expressing uncertainty about the possibility of a rapid reversal of current trends.

CORPORATE DEBT//FINANCIAL CRISIS//FACTORING//PRIVATE CREDIT,//ALTERNATIVE FINANCING

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A few years ago, as part of an analysis of specific business challenges, I observed the detrimental impact of escalating corporate debt levels on companies' income statements, profits, and, consequently, their ability to self-finance. This surge in debt has exacerbated the complexity of accessing new financing and refinancing maturing debt, even when intended to support investment (Ruozi, 2021). Thus, in the context of an unfavorable economic outlook, the management of a company's liquidity and working capital could become increasingly challenging, aggravated by the growing tendency of banks – the main financiers of Italian companies – to prioritize investments in public securities. This trend has led to a gradual and

burdensome reduction in lending to businesses. This situation, prevalent not only in Italy but also in other countries, appears to be worsening, especially if interest rates continue to rise. Such a scenario could create new financial hurdles for companies and exacerbate their economic and capital constraints.

THE AMERICAN CASE

Early warning signs have emerged in the United States (Clarfelt, 2023), where many companies that have flourished in part because of low bank borrowing costs are now confronted with a sudden and substantial rise in interest rates, with a corresponding escalation in overall borrowing costs. Many of these companies face the daunting challenge of repaying or refinancing more than three trillion dollars of maturing debt over the next five years at a cost that is significantly higher than current conditions.

Moreover, the challenges facing U.S. companies go beyond the financial realm. For example, rising interest rates are causing a decline in consumer spending, which directly affects the revenues of goods and service providers, thereby escalating risk, insolvencies, and, in some cases, the likelihood of bankruptcy. The incidence of such events, especially among the most vulnerable companies, is rising sharply, with liquidity crises spreading and intensifying even among large companies.

One notable example is the retail giant Bed Bath & Beyond, which, despite refinancing its debt nine months before filing for bankruptcy, collapsed after more than five decades in business, resulting in the closure of more than 50 stores and the displacement of 14,000 employees.

Against this backdrop, companies that rely heavily on leverage – particularly in real estate and, indirectly, in private equity (Oliver, 2023; Gara et al., 2023) – are more vulnerable than their peers. As a result, they are seeking to restructure their debt positions by extending maturities, offering new collateral, and looking for alternative, nontraditional lenders.

THE FRENCH CASE

In France, the era of abundant and cheap credit has become a relic of the past, as exemplified by the case of Clariane, a prominent group in the European nursing home industry and various segments of the healthcare sector.

Struggling to secure the means to refinance its debt maturing between the end of 2023 and the beginning of 2024, the group was forced to implement a 1.5-billion-euro contingency plan with the support of Credit Agricole Assurances, its main shareholder. Despite exhaustive efforts, including attempts to negotiate with 21 different banks and the offer of substantial real estate assets as collateral, Clariane's attempts to renew its credit lines failed[1], mainly due to the tightening of banks' credit exposures under the supervision of the ECB.

Challenges similar to those faced by Clariane have unfolded at numerous other companies, largely as a result of the banking system's tendency to exercise greater scrutiny when evaluating new concessions and renewals of credit lines (Chaperon, 2023). In France, the economic slowdown has exacerbated the effects of credit rationing and escalating costs: in the third quarter of 2023, the number of distressed companies or companies filing for bankruptcy increased by 23 percent compared to the corresponding period of the previous year.

In fact, the gross debt ratio of French non-financial companies rose to 78.4 percent of GDP in the second half of 2023, above the European Union average of 57.4 percent.

1 On the Clariane affair, see instead the press release of the Clariane Group, "Clariane Strengthens Its Financial Structure to Overcome a Sharply Deteriorated Access to Financing." November 2023. clariane.com.

THE ITALIAN CONTEXT

Until recent years, the financial challenges faced by Italian companies, particularly SMEs, seemed to have been largely resolved. However, a confluence of factors, including the pandemic, economic slowdown, and inflationary pressures, has brought these issues back to the forefront, despite significant government intervention to mitigate them.

A study of the Bank of Italy published in November 2021 (De Vincenzo, 2021) highlighted the strengthening of the financial foundations of Italian firms over the past decade. However, it also noted a recent deterioration, particularly since the spring of 2021. This decline was attributed in part to the continued support of monetary policy and government loan guarantees, which had enabled firms to sustain themselves through banks. In addition, the study predicted that the pandemic would further increase firms' indebtedness, further weakening their financial structures and limiting their ability to self-finance and make new investments. The paper also highlighted the looming risk of increased corporate bankruptcies as a result of excessive debt, which is sometimes necessary to implement essential restructuring measures. Not surprisingly, the study concluded by emphasizing the need to improve corporate crisis management processes as a key measure to prevent or mitigate potential disasters[2].

The expected disruptions did occur. However, according to a Bank of Italy report focusing on companies in Lombardy (Bank of Italy, 2023), even two and a half years after the aforementioned study, firms' profits remained stable. Moreover, since April 2023, there has been a gradual reduction in corporate debt, which can be attributed to lower demand and stricter supply policies. As a result, despite the economic slowdown and rising cost of credit, the number of defaults recorded by banks remained relatively low for some time. Recently, however, the rate of credit deterioration has increased sharply and is expected to peak in 2024, rising by an estimated 3.8 percent. Thereafter, it is expected to decline to 3.1 percent in 2025, although this would be a relative decline as the absolute amount of impaired loans is still expected to increase (ABI-Cerved, 2023).

Companies are currently facing three serious threats that could have a profound impact on their short- and medium-term prospects: the escalation of energy and various other commodity prices; the rollback of government interventions related to Covid-19; and, last but not least, the rising cost of debt, especially bank debt, coupled with increased challenges in securing it. The latter trend has led to an increase in the number of companies with elevated credit risk or financial vulnerability, which together accounted for 48.7 percent of the total in 2022, a figure expected to exceed 50 percent in 2023 (compared to 41.9 percent before the pandemic). According to Deloitte and Assifact's Cerved Group Score (2023) estimates, in 2022 companies at risk of default held 10.7 percent of total corporate debt, while those in a vulnerable position held 19.5 percent, amounting to over 300 billion euros. A significant portion of this debt will need to be refinanced in the coming years, with smaller and less structured companies, as well as those in the construction, services, and agriculture sectors, considered particularly vulnerable.

REACTING TO THE CRISIS: THE POSSIBLE USE OF FACTORING

The surge in the number of distressed companies has been significant and is likely to continue in the near future unless these threats are effectively mitigated. Specifically, we will address challenges of a strictly financial nature that cannot be resolved through traditional banking channels. Regulatory restrictions on corporate access to credit and problems stemming from the complexity of companies' capital structures, coupled with banks'

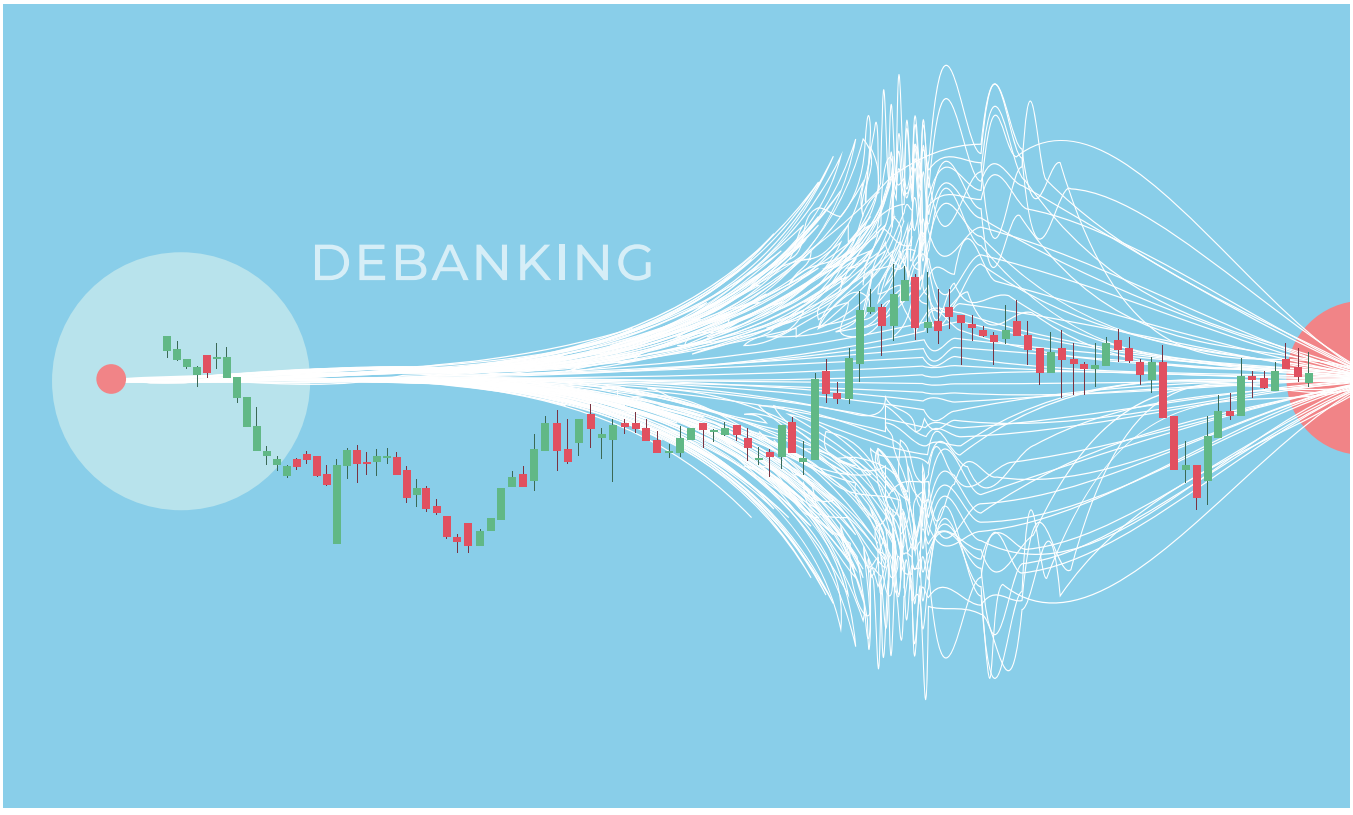
2 The evolution of these problems is analyzed in the Cerved reports for the last four years, from which some of the forecasts included here are drawn.

increased caution in managing risk, do not bode well for an imminent reduction in borrowing costs or an increase in new disbursements.

These considerations are in the broader context of the business model of banks, especially in Italy, where they traditionally and largely operate as "commercial" credit institutions. In this model, the interest margin, which is the main component of their profits, is the difference between the interest earned on loans to customers and the interest paid, mainly on household deposits. However, for various reasons, traditional brokerage is giving way to other activities that are considered more profitable and less risky, such as asset management and insurance products. This shift is giving rise to a new banking business model that involves a reduced appetite for lending.

The phenomenon of "debanking" corporate debt, which began some time ago and has evolved rapidly, is not a new revelation. Of course, this trend has been accompanied by the growth of what's known as the shadow banking system – a diverse array of non-bank intermediaries that perform functions similar to those of banks but operate outside the same regulatory oversight. There has been considerable international criticism of the practices of such entities, particularly following the collapse of certain players[3]. However, it's undeniable that, at least for the time being, their success in certain sectors of the financial market, mainly in the area of credit, is firmly established[4] (Ruozi, 2012).

When it comes to accessing the capital market, Italian companies have mainly relied on the bond segment, which has remained relatively stable and represents a modest share of their total financing sources. However, this level of exposure pales in comparison with that of other European Union



3 As in the case of a large Chinese shadow bank cited by Lockett and Yu (2023) and Hale and Leng (2024).

4 It may be a coincidence, but shadow banking has encountered new complexities during this period, so much so that in the United States, a leader in this sector, the volume of its activity in 2022 declined year-on-year for the first time since 2008. This decline largely reflects a trend in line with banking, although it remains larger on average, as reported by Ninfole (2023).

countries, the United Kingdom, and the United States. Moreover, the prospect of a significant improvement in the Italian capital market in the short- or medium-term seems doubtful, suggesting that it will remain a relatively marginal option for local SMEs for the foreseeable future.

SMEs can derive significant benefits from factoring, as highlighted in a recent report by Deloitte and Assifact. This financial instrument is well established in Italy and is constantly evolving to better meet the different financial needs of companies (Ruozi, 2021). Factoring is increasingly preferred because it offers robust guarantees compared to traditional bank credit lines. It relies not only on the creditworthiness of the clients but also on that of their business partners. While factoring has historically been favored by more financially stable companies, there has been a notable shift in recent years, with even less robust companies embracing it. Some specialized factors catering to these companies have achieved remarkable financial and economic results, occasionally facilitating their listing on the stock exchange.

Furthermore, as the number of financially vulnerable and distressed companies grows, so does the interest in financing them, prompting both specialist and generalist players to step in. Specifically, the latter devote a smaller portion of their portfolios – about 6 percent of their total turnover – to providing financial assistance to distressed companies. The main difference between these two categories of financial players lies in how they focus on financing distressed companies. For specialist players, assisting distressed companies is their core business, while for generalist players it is primarily an opportunity to maintain relationships with clients facing financial challenges.

Access to bank credit and debt financing has emerged as one of the top concerns for companies in financial distress. This access directly impacts their prospects for recovery, placing them in the precarious position of navigating difficult circumstances and potential default risks. In fact,

the struggle to meet financial obligations not only jeopardizes business continuity, but also hinders organic growth and the pursuit of opportunities tied to extraordinary transactions, such as acquisitions. As a result, factoring is becoming a critical tool in ensuring business continuity by providing immediate access to liquidity for companies in precarious situations. In addition, factoring improves the efficiency of the asset cycle by mitigating defaults through effective receivables management and by transferring risk to the factor through non-recourse transactions involving the full assignment of receivables. Acting as an outsourcer in managing the liability cycle, the factor facilitates the recognition of receivables as pre-deductible, providing enhanced protection against potential creditor foreclosure. Finally, factoring helps reduce accounting and administrative burdens by streamlining customer credit scoring processes for greater simplicity and efficiency.

While the benefits of factoring are undeniable, it's important to recognize that this financial tool is not universally applicable. In particular, for smaller businesses and those operating in sectors such as agriculture, factoring may not be a suitable solution for ensuring business continuity. This limitation is due to the often-short collection periods for trade receivables in these sectors, which may not allow companies the necessary time to generate the liquidity they need.

Recent experience in Italy highlights a remarkable expansion of the factoring market, partly due to operations with distressed companies. Not only has this sector experienced significant growth, but it also offers significant opportunities for further expansion, involving companies of various sizes and operating in different sectors. Both specialist and generalist firms have been affected by this growth, albeit to varying degrees. While specialist companies have shown a greater willingness to adapt to these changes, generalist firms have approached them more cautiously, mainly due to technical and legal concerns. It's worth noting that the fears of generalist factoring companies about the increased risk associated with financing distressed companies appear to be unfounded. Data on the net NPE ratio for 2022 – which measures the ratio of the total value of impaired loans to the total stock of loans disbursed, including both non-performing and performing loans – confirms a low level of risk. Overall, the net NPE ratio for the entire factoring market was 1.83 percent, with companies specializing in distressed financing having an even lower ratio of 1.62 percent.

This performance is no accident; it reflects the dedicated efforts of factoring companies that have excelled in financing distressed companies. These companies have distinguished themselves by deploying highly specialized and professional teams capable of conducting detailed analyses quickly and cost-effectively, securing adequate financial resources and insurance coverage, and providing prompt lines of credit. It's important to recognize, however, that this is no easy task, as it involves significant legal, credit, operational and reputational risks, each of which requires careful consideration. In today's increasingly sophisticated and innovative financial landscape, it's inevitable that certain risks must be taken, controlled, and managed to prevent them from manifesting themselves as detrimental outcomes for both clients and the intermediaries that finance them (Deloitte-Assifact, 2023).

Recent experience in Italy highlights a remarkable expansion of the factoring market, partly due to operations with distressed companies.

PRIVATE CREDIT

In today's more sophisticated financial markets, distressed companies have access to alternative options that go beyond the traditional sources of credit, including what is commonly referred to as private credit. This sector has grown substantially in recent years, reaching remarkable levels of both volume and quality in countries such as the United States, the United Kingdom, and several Asian countries. Private credit differs from bank loans, leveraged finance, and bonds in that it is provided directly to businesses by non-bank entities rather than by banks, banking syndicates, or the financial market. In operational terms, private credit funds are as investment vehicles that deliver financing directly to companies, circumventing traditional bank intermediaries.

The U.S. market, the largest in the world, makes extensive use of this type of financing, particularly among medium-sized companies. Despite the lack of official data for precise quantification, estimates suggest that the total value of the market exceeded $3 trillion by the end of 2021, highlighting its significant size. This is in stark contrast to Italy's private credit market, which totaled only 3,224 million euros in 2022. However, this is a remarkable 43 percent increase from the previous year, highlighting the potential for growth even within Italy. Efforts must be made to raise awareness of this financing option among companies, while identifying investors and channels that promote optimal synergy between companies and financial operators. Although it is difficult to make reliable predictions in this area, the available evidence suggests a justified sense of optimism regarding its development[5].

Private credit funds carry relatively high risk in all countries, but are currently yielding 12 to 15 percent annually, making them particularly attractive to investors with deep pockets and a robust appetite for risk. Despite the inherent caveats, these funds are widely promoted, even by leading investment banks in the asset management sector[6] such as Goldman Sachs, which highlight four key advantages in their prospectuses:

- ***High Performance***: These funds offer the high returns mentioned above.
- ***Lower Average Loss Ratio***: Compared to high-yield bonds, private credit funds have a lower average loss ratio.
- ***Potential for Higher Returns***: There's potential for higher returns, especially in a declining interest rate scenario.
- ***Diversification Tool***: Private credit funds serve as an effective diversification tool for investment portfolios of sufficient size. While they may be illiquid assets in the short term, their relative usefulness becomes apparent over the medium to longer term[7].

When examining the motivations behind firms' use of private credit, there is a degree of consistency across countries, although differences in the economic landscape clearly influence the supply and demand dynamics of this financial instrument. In the United States, for example, lenders in this sector operate without the regulatory oversight that applies to banks. In contrast, the United Kingdom treats these lenders as asset managers, subjecting the funds they manage to specific regulations and controls. This includes requirements to disclose a range of performance and risk management data to ensure transparency and accountability within the sector.

There is no doubt that companies need to look for financial alternatives beyond the traditional ones, especially to avoid insolvency or precarious economic situations. In this context, private credit is an extremely attractive instrument, especially because of its technical adaptability. In a market with

5 To understand how these activities fit into the broader financial market, see Board of Governors of the Federal Reserve System (2023). As for the size of the phenomenon, there are also those who believe it is contained within $1 trillion, such as the Financial Stability Board (2023), and those who estimate it at $40 trillion, such as Gaw (2023).

6 Interesting news on private credit in Italy can be found in: AIFI (2016; 2021) and various earlier editions; J.P. Morgan (2023).

7 For all, see Sperlinga (2023). Similar considerations are also made with respect to Asian markets, whose situation may soon approach that of the United States qualitatively and quantitively, as shown in Dillard et al. (2023). For the activity of private credit in pension funds, see Singh (2023).

limited financial alternatives, private credit stands out as a highly valuable form of financing.
Key elements contributing its attractiveness include:

- ***Direct Relationship***: Private credit fosters direct interaction between lender and borrower, facilitated by rigorous due diligence. This lays the foundation for lasting relationships built on trust.
- ***Flexibility***: Loans offered through private credit channels are inherently flexible, allowing for easier renegotiation and modification in response to changing market conditions and business needs.
- ***Customized Financing***: Private credit allows financing solutions to be tailored to the precise needs of potential borrowers. Unlike bank loans, which often adhere to pre-determined standard terms for processing large volumes, private credit offers a more customized approach.
- ***Speed***: Private credit excels in rapid analysis, decision-making, and disbursement of both new and renegotiated terms, facilitating quick responses to evolving financial needs.

In essence, private credit takes a variety of forms, including secured loans, corporate cash flow support, infrastructure investment, rescue operations, venture or commercial debt, among others. Direct engagement between parties can also facilitate voluntary financial crisis management transactions, avoiding potentially devastating bankruptcy proceedings that could threaten the survival of the companies involved[8]. Overall, the success of private credit is undeniable, benefiting both borrowers and lenders. So far, it has effectively met the needs of both parties, taking advantage of favorable financial market conditions and tighter bank lending standards. The development of interest rates has been central to its growth, leading to speculation about the sustainability of this expansion should market conditions reverse. Such a scenario raises questions about the potential resurgence of traditional financing and investment models.
Predicting the future of the financial sector is indeed a complex and speculative endeavor. Improved economic, capital, and financial conditions for businesses may ease access to bank credit, possibly signaling a gradual, albeit difficult, return to increased bank lending. Conversely, if companies fail to improve their financial position and struggle to renegotiate debt, the likelihood of survival and rising non-performing loans (NPLs) become critical concerns. The availability of multi-year private credit financing in the medium to long term remains uncertain. Significant investments in recent years, particularly by insurance companies, could pose challenges with far-reaching consequences. While the growth of private credit and related funds may support the current expansion, its sustainability depends on market dynamics and regulatory changes. In addition, the emergence of new business models and increased risk appetite may allow banks to partially replace private credit mechanisms. However, the interaction of these factors and their impact remain uncertain9. It's important to recognize that financial trends rarely undergo sudden reversals, suggesting that current challenges are likely to persist for years to come. Adaptability, foresight, and prudent risk management will be paramount in navigating the evolving financial landscape.

MANAGERIAL IMPACT FACTOR

- **Increased demand for factoring**: factoring has evolved to cater to a wider range of companies, even those historically less inclined towards it.
- **Emergence of private credit**: with higher returns and flexibility, private credit offers a viable solution for businesses seeking immediate liquidity and tailored financial assistance.
- **Shift in banking business models**: traditional banking models are transitioning away from lending towards more profitable and less risky ventures such as asset management and insurance.
- **Uncertain future dynamics**: the future of both factoring and private credit remains uncertain, dependent on various factors including market conditions, regulatory changes, and evolving business models.

8 For details, see Alternative Credit Council (2023). For the United States, see instead Block et al. (2023) and Loumioti (2019).

9 Among others see: Van Steenis (2023); Goss (2023); Platt et al. (2023); Gara (2023).

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