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Green Finance and Accounting: Accounting and Reporting of Environmentally Friendly Financial Products

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Abstract

This paper delves deeply into the critical intersection of green finance and accounting, focusing on the intricate mechanisms for effective accounting and reporting of environmentally friendly financial products. As the pressing issues of climate change and environmental degradation continue to present significant global challenges, financial institutions are increasingly acknowledging the urgent necessity of integrating sustainability into their everyday practices. The study highlights the noteworthy emergence of green finance in direct response to these persistent issues, detailing various innovative financial products that have been specifically tailored to support a wide range of environmental initiatives, such as green bonds, sustainable investment funds, and eco-friendly loans designed to promote ecological sustainability. Additionally, it closely examines the essential accounting standards and comprehensive reporting frameworks that are crucial for ensuring transparency and accountability for these impactful products, including the vital roles played by regulatory bodies and international guidelines that govern these practices. By meticulously analyzing a variety of case studies and identifying best practices in the sector, this research aims to offer valuable insights into how effective accounting and thorough reporting can significantly enhance the credibility of green financial products, thereby stimulating greater investment in sustainability initiatives. Ultimately, this could lead to the promotion of a more sustainable and resilient economy capable of addressing the challenges of the future.

Keywords: Green Finance, Green Accounting, Tax Evasion, Environmentally Friendly Financial Products

1. Introduction

• Climate change and the need to restore the natural environment in order to address the adverse impacts of climate change have resulted in increased awareness about environmentally friendly financial products and services over the last decade. Accounting and reporting of environmentally friendly financial products hold significant importance as they propose sustainability reporting alongside a regular financial reporting framework. Thus, traditionally, socially responsible investing has been the realm of specialist ethical investment funds that remove investment options based on a list of often negatively screened sectors and companies (Sharma & Choubey; Pham et al., 2021; Lin et al., 2022; Tran et al., 2022; Bhutta et al., 2022; Zhang & Umair, 2023). Given that sustainability issues have systemic relevance, political

organizations have encouraged greening the financial system. Similarly, international bodies have encouraged and possibly committed to finance green initiatives by agreeing to invest a portion of identified investments into a green thematic bond. Including sustainability in the regular and daily practices of mainly economics and finance is crucial given the urgency required to combat the irreparable damage to the environment. Both finance and accounting have a direct link to asset valuation. Having sustainable projects has significant impacts on profits or losses and returns on investments financially, as well as the potential uplift of the physical and social environment, such as various stakeholders enjoying the journey of traditional car manufacturers manufacturing electric cars or divesting from investing in fossil fuels (Ozili, 2022; Gu et al., 2021; Dikau & Volz, 2021). Relevant stakeholders include state-owned entities, individuals and their households, international finance providers and organizations, locally owned businesses, other researchers and research institutions, and future generations. Globally, changes in financial market dynamics have also contributed to the evolution of accounting for and reporting of sustainability issues. For example, the inability of a company to undertake business activities in compliance with sustainability issues can be considered a legitimate financial constraint and a reason why companies would fail a going concern test. In addition, regulatory changes are also enhancing the recognition of emerging issues such as climate-related risks by financial markets (Authority, 2021; Demekas & Grippa, 2021; González & Núñez, 2021; Battiston et al., 2021).

- **1.1. Background and Rationale**
- Given the anticipated consequences of global warming, challenges related to environmental and climate risk are at the top of current policy discussions worldwide. There is increased awareness, therefore, of growing market capitalization, both through regulation and voluntary effort. The full evidence on how financial markets are responding to energy and environmental-related supply chain risks—albeit a rapidly expanding literature—suggests that these risks are material, and upward pricing and real investment strategies must be deployed to mitigate them. This awareness is part of a paradigm shift in financial economics that recognizes that typical investor procedures do not look to distant rather than short-term returns or else fail to internalize risks actually affecting a variety of stakeholders, i.e., not fully considering positive and negative externalities (Zakeri et al., 2022; Hase et al., 2021; Head, 2022; Bibri et al., 2023).
- The primary objective of research conducted in the continuously evolving and highly dynamic field of green finance and green accounting is to comprehensively identify, substantiate, analyze, and ultimately determine precisely what specific factors might genuinely foster exceptional and lucrative investment opportunities outside the traditional realm of past development practices. This exploration becomes notably important, especially in light of the unexpected and unpredictable climate-related challenges and the pressing societal demands that are increasingly shaping our global landscape today (Gilchrist et al., 2021; Kumar et al., 2022; Ning et al., 2023; Ozili, 2022). Generally speaking, when innovative and forward-thinking policy objectives are enacted, it is not uncommon for many investors across the globe to scale back their remunerative and profit-driven investments, choosing to withdraw their capital from businesses that are perceived to be the most culpable contributors to environmental degradation and ecological harm. Concurrently, they are increasingly likely to redirect their resources toward making more sustainable and socially responsible products and services more widely accessible to a diverse audience and consumer base, which is central to fostering a more sustainable economy (Hong & Xiao, 2024; Wang et al., 2023; George & Schillebeeckx, 2022; Chueca Vergara & Ferruz Agudo, 2021; Burckart & Lydenberg, 2021).

• The remarkable and notable growth in what are commonly referred to as “ESG funds”—which combine and effectively integrate criteria that encompass environmental sustainability, social justice, along with sound and effective governance behaviors—strongly suggests that environmentally friendly goods and services are gradually becoming more available and are increasingly in high demand from consumers who are seeking to make a truly positive and meaningful impact on both society and the environment (Zhang & He, 2024; Dmuchowski et al., 2023; Cho, 2022; Zou et al., 2023). The processes involved in mitigating climate-related risks play a major role in effectively curbing harmful carbon emissions, as well as diligently preparing for the emergence of low-carbon or zero-carbon capital market arrangements alongside innovative production methodologies that harness sustainability. These tasks stand out as critical and urgent, serving to underscore the comprehensive and multifaceted research process that has been adopted in these references. This well-structured process aims to definitively address the diverse interests and specific requirements of a broad range of societal actors who are seriously engaged with the incessant climate-related targets that have been developed and established by numerous organizations and institutions spread across the globe (D'Orazio & Dirks, 2022; Hussain & Reza, 2023; Ofremu et al., 2024). Furthermore, ESG encompasses a wealth of valuable details that are intricately connected to both the environment and society, reflecting both the ethical considerations and the vital financial imperatives that characterize the modern investing strategies and practices of today. This relationship between ESG standards and practices not only enhances the sustainability of investments but also raises awareness among investors regarding the significant responsibility they hold in influencing positive societal change (Li et al., 2021; Pollman, 2024; Wang et al., 2024; Chopra et al., 2024).

• **1.2. Scope and Objectives**

• Green finance has increasingly become an integral component of the economies around the globe, and establishing a financial system that effectively incorporates sustainability plays a crucial and significant role in facilitating the transition towards a greener economy. Green accounting is witnessing a surge in interest from various investors, making it particularly important to understand the intricate needs related to financing, the nature of expenses, and the dynamics of revenues (Khan et al., 2022; Rasoulinezhad & Taghizadeh-Hesary, 2022; Li & Umair, 2023; Akomea-Frimpong et al., 2022). This study aims to provide a thorough and comprehensive analysis of the various primary green financial products that are currently being offered by Polish commercial banks. Furthermore, this examination will present an overview of the selected international financial reporting standards along with Polish legal requirements for the accurate reporting of financial assets and liabilities. This will also include relevant information related to environmental aspects, such as taxonomies and classifications that are essential for proper financial disclosure in the context of sustainability (Akomea-Frimpong et al., 2022; Walczak et al., 2021; Daszyńska-Żygadło et al., 2021; Komarnicka & Komarnicki, 2022).

• Our study aims to fill this literature gap by addressing whether green finance and accounting influence investment decisions. Thus, the study objectives are as follows: The research scope of the study is deliberately limited to the detailed elaboration of the European Union’s sustainable finance taxonomy and a selection of financial products that are currently incorporated in the portfolio of green banking products offered by commercial banks operating in Poland (Schütze & Stede, 2024; Ahlström & Monciardini, 2021; Ziolo et al., 2021).

• The added value of this thorough research lies in the extensive and comprehensive analysis of various green saving products that, unfortunately, are not clearly segregated as environmentally friendly

by the existing taxonomy. As a result, these beneficial products might be inadvertently excluded from an investor's decision-making process, which could have significant implications for investment strategies aimed at promoting sustainability. From an academic standpoint, the study significantly contributes to the broad subject of sustainable finance by partially questioning and challenging the conclusions drawn from publicly available consumer surveys, which often lack depth and nuance. This research, in turn, is more practically oriented towards the operations and strategies of Polish banks, which are increasingly expected to facilitate impactful investments (Elgarahy et al., 2023; Favot et al., 2023; Machová et al., 2022; Alsharif et al., 2023; Lazaro et al., 2023). Such investments should eventually aim to concentrate on selected activities that embody the principles of green finance rather than simply focusing on the entirety of the financial institution's support for sustainable finance initiatives. The application of the innovative methodology proposed in this study not only enriches the academic debate but also enables the establishment of a robust methodology for green reporting of selected financial entities specifically in Poland. Ultimately, this could lead to greater transparency and accountability in the green banking sector, fostering a more sustainable financial landscape (Kong et al., 2022; Khan et al., 2021; Bashir et al., 2022; Turzo et al., 2022; Alkaraan et al., 2023; Ecer & Pamucar, 2022).

- **2. Conceptual Framework**
- This section provides a detailed conceptual framework that is essential for comprehending the analyses that will follow in subsequent parts of this work. Key terms are rigorously defined, and significant concepts are introduced in a structured manner. The foundation of this chapter is built upon an understanding of green finance as it pertains to applied theory, closely reflecting the practices that are currently in existence. Furthermore, the crucial analytical capabilities inherent in theoretical accounts of green finance indicate that these cannot be easily classified or pigeonholed into rigid categories (Wang et al., 2021; Gilchrist et al., 2021; Huang et al., 2022; Lee & Lee, 2022). This is because green finance broadly involves efforts to persuade private financial markets to realign their priorities and operations with globally recognized sustainable development imperatives. Some of these frameworks clearly take the form of normative, evaluative, or design theory. These normative accounts hold the potential to effectively guide the understanding of forestry professionals or environmental experts, whose primary task is to facilitate suitable investment designs by aligning the diverse environmental capacities with the pressing economic development needs that exist (Liu and Lai2021; Bhatnagar & Sharma, 2022; Ziolo et al., 2021; Ng et al., 2021).
- The proposed conceptual framework ties together many theoretical and ideological strands to unravel the many disparate threads to be interwoven in understanding the following analysis. Its main theme is understanding green finance as an integration of theory and practice with a global institutional imagination. Green financialization follows in moral strengths the attempt to outline the ground rules of sustainable accounting—hence, green accounting—on the back of post-savings and investment patterns (Renaldo et al., 2023; Steuer & Tröger, 2022; Dong et al., 2021). Before we take the reader on a tour through the various fads and fashions of green finance, it is necessary to take some steps back and establish certain key conceptual terms and the orientations that secure the various articulations of green finance. The conceptual orientation offered is not a pure 'thing-in-itself' (borrowing Kantian language). Although a little unfair to other orientations—at times they can be quite indicative of environmentalism as foundational—green finance also cannot be reduced to a simple and axiomatic understanding of green accounting. Finance is a tricky economy of green relations. It means dealing with a highly technicized

economy at the edge of a global market, wherein phenomena do not simply place themselves (Yu et al., 2022; Cui & Wang, 2023; Song et al., 2022; Nedopil, 2023).

- **2.1. Definition of Green Finance and Accounting**
- Green finance represents an incredibly significant and promising opportunity that is transformative in nature, not only to attract and inspire but also to mobilize and effectively direct substantial and impactful investments towards a wide array of environmentally friendly projects that can change the world for the better. This practice essentially involves refinancing a diverse range of various initiatives that prioritize sustainability and environmental consciousness in their operations and overall impact comprehensively (Ozili, 2022; Bei & Wang, 2023; Stoll et al., 2021; Debrah et al., 2022). The funds that are generated through the innovative mechanisms of green finance will be specifically allocated with the utmost precision for the explicit purpose of constructing or reconstructing facilities that are thoughtfully designed to operate with significantly lower environmental impacts when compared to traditional and conventional facilities, which often have detrimental effects on the ecosystem and the health of our planet. By facilitating these actions, green finance aims not only to enhance ecological sustainability but also to promote a healthier and more vibrant planet for future generations to thrive upon and enjoy. This innovative and forward-thinking type of financing stands in stark and clear contrast to what is often referred to as "brown" finance, which typically relates to investments that contribute to significant environmental degradation and deterioration without regard for sustainable practices or long-term ecological health (Debrah et al., 2022; Zhang et al., 2021; Li & Umair, 2023; Akomea-Frimpong et al., 2022). Additionally, it should be noted that social finance is usually discussed within the broader context of "blue" finance, which often addresses crucial issues related to water resources, marine ecosystems, and maritime environments that are essential for sustaining all forms of life on Earth. Through the lens of green finance, a more sustainable, equitable, and environmentally conscious future can be fostered effectively with capital directed towards meaningful projects that benefit both the environment and society in tandem, ensuring that these endeavors not only support ecological integrity but also uplift communities economically and socially, creating a better world for all and leaving a legacy of sustainability for generations to come (Bennett et al., 2021; Cunha et al., 2021; Toxopeus & Polzin, 2021).
- To ensure that projects designed with environmental sustainability in mind can effectively attract investors who are committed to eco-friendly initiatives, it is crucial that there is an increase in transparency surrounding these initiatives. At this moment, we face significant challenges in identifying such projects or in fully comprehending their potential impact on the environment. Furthermore, the market for green finance would experience increased stimulation through the creation and promotion of various environmentally sustainable financial instruments, such as innovative green loans, green bonds, or carbon credits that provide tangible benefits (Razak, 2024; Alyahia et al., 2024; Patel & Jose2024). In the evolving landscape of finance and accounting sectors, the emergence of concepts such as "green finance," "green accounting," and "green reporting" presents a challenge to our traditional way of thinking and operating in these fields. In direct response to market needs and expectations, alongside the exemplary influence that businesses can wield, finance and accounting sectors could actively encourage more environmentally friendly behaviors by allocating significant investments into sustainable projects rather than pursuing conventional routes. Furthermore, green finance and accounting practices have the potential to seamlessly integrate existing traditional financial analyses and accounting methodologies with proactive emission-

saving activities. This alignment results in a clear, impactful, and critically important message for all stakeholders involved (Patra et al., 2024; Li, 2021; Gao et al., 2023).

- **2.2. Theories and Principles**
- At present, the landscape of green finance and accounting theories remains rather sparse, characterized by a lack of comprehensive concepts, with only a handful of ideas gaining credible traction and widespread recognition in the industry. This limited development can primarily be attributed to the fact that green finance and accounting are intrinsically more intertwined with practical applications in a real-world context, making it somewhat challenging to fully develop a theoretical framework. They rely significantly on the pertinent insights and knowledge derived from the existing frameworks of traditional finance and accounting theory. To illustrate this point further, traditional finance and accounting theories postulate that organizations must critically consider the profound significance of sustainability in their operations and decision-making processes (Yadav et al., 2024; Debrah et al., 2023; Udeagha & Muchapondwa, 2023; Ren et al., 2023).
- Firstly, according to established economic theory, it is imperative for every individual and entity within the system to understand that in order to effectively prevent the tragedy of the commons and to achieve a sustainable balance of resources in an equitable manner, all stakeholders must strive diligently to utilize the resources at their disposal in a responsible, respectful, and judicious manner. This necessity creates a framework that calls for a concerted effort from all parties involved, highlighting the need for collaboration across various sectors and levels of society. Secondly, as indicated by stakeholder theory, it is crucial for companies to strike an appropriate balance among the competing, and often conflicting, interests of diverse stakeholders, which include customers, employees, local communities, and even governmental bodies. Addressing these diverse interests effectively is vital for the long-term success, viability, and sustainability of any business in today's complex environment (Vyas, 2022; Boamah et al., 2022; Zhang et al., 2023; Traversy et al., 2021).
- Thirdly, within the framework of the resource-based view, traditional finance and accounting theories explicitly highlight the importance of resource heterogeneity and the non-mobility of resources, which are integral to a company's ongoing sustainable development and strategic positioning. Understanding the unique resources that a firm possesses, as well as how to leverage them effectively, can lead to significant competitive advantages in fostering sustainability, innovation, and resilience in a rapidly evolving market landscape. Therefore, as companies navigate the complexities of integrating green finance and accounting principles into their operational strategies and approaches, it becomes increasingly evident that drawing from these traditional theories can provide valuable guidance, direction, and a robust foundation for sustainable and responsible practices in the long run (Zahra, 2021; Lee et al., 2022; Wu & Huang, 2022; Huang, 2022; Arbelo et al., 2021).
- But the specifics of which additional factors companies need to take into account to achieve sustainable development are an open question, and it remains necessary for further steps to be taken in practice to explore suitable and effective financial management strategies. Green finance is also closely related to the theoretical underpinnings of the green economy. Among the various green economy theories that exist, one of the most widely recognized is the set of sustainable development goals, which has attracted significant attention from governments, international institutions, and enterprises alike (Wang et al., 2022; Yin & Xu, 2022; Khan et al., 2022; Akomea-Frimpong et al., 2022). In the UN's Sustainable Development Summit held in September 2015, the General Assembly came together to adopt the 2030

Agenda for Sustainable Development. This comprehensive Agenda also incorporates 17 specific Sustainable Development Goals. These goals represent the ultimate shared global vision of a desirable future. They serve as a crucial component of the post-2015 international development agenda, with a focus on guiding the world at large out of the depths of poverty, actively combating all forms of inequality, taking decisive actions to confront the pressing climate crisis, and diligently working to protect the planet. The overarching emphasis is on promoting people, peace, the planet, and prosperity, which are foundational principles for creating every truly inclusive society that seeks to thrive and prosper (Thakur et al., 2021; Shulla & Leal-Filho, 2023; Parini et al., 2021; Weiland et al., 2021).

- **3. Regulatory Landscape**
- Numerous international organizations have established a variety of comprehensive principles, rigorous standards, detailed guidelines, and extensive training programs aimed specifically at effectively cultivating green finance and accounting practices within the financial sector. This significant effort focuses on raising the bar for regulations pertaining to the meticulous accounting and transparent reporting of climate-friendly as well as environmentally friendly financial products. One of the pioneering and truly significant standards concerning ESG (Environmental, Social, and Governance) disclosure targets was set during the historic UN Summit on Sustainable Development, which took place in the year 1992. Within the framework of Agenda 21, there was a dedicated and critical section on "Financial resources and mechanisms," which strategically proposed that regulators come together to develop a well-defined set of principles, norms, and guidelines (Debrah et al., 2022; Akomea-Frimpong et al., 2022; Dikau & Volz, 2021; Gilchrist et al., 2021). These would serve to harmonize the accounting and reporting processes related to the diverse range of environmentally linked financial instruments, assets, and liabilities. The intention behind these initiatives was to assist companies across various sectors in effectively minimizing both the environmental costs and the associated risks that naturally arise from the utilization of natural resources. By diligently adhering to these proposed standards, organizations can not only improve their operational practices but also foster a more sustainable and resilient financial ecosystem that supports the goals of environmental stewardship and social responsibility (Hass et al., 2021; Klaßen & Stoll, 2021; Calandra et al., 2024).
- As outlined in the aforementioned standards, numerous countries and regulatory bodies have proposed or actively implemented international best practices along with harmonized rules. These initiatives take into account the specific accountability practices, legal requirements, and common law concepts unique to each country. Several countries, including the Netherlands, France, and others, have not only transposed various accounting provisions into their national laws but have also gone above and beyond the minimum requirements (Ozili, 2022; Wang et al., 2022; Bhutta et al., 2022; Akomea-Frimpong et al., 2022; Murthy & Ramakrishna, 2022). They have implemented stricter and more precise definitions of firms that are obligated to report financial information. Moreover, a number of these countries have exceeded the existing requirements of the established rules and directives by mandating that their institutions adhere to additional guidelines that have been issued by relevant authorities. Notably, in adhering to harmonized guidelines, both the Dutch and Swedish supervisors have issued clear and practical advice on incorporating prudent decision-making processes into their regulatory requirements (Carungu et al., 2021; Turzo et al., 2022; Pizzi et al., 2021). Although various organizations have established international sustainable development goals along with principles for climate financial accounting and reporting, it is important to recognize that other countries cannot be forcibly required to impose or adopt

these universal standards. This limitation ultimately constrains the boundaries within which countries can operate. Furthermore, it is worth noting that a significant number of countries have yet to fully comply with the accounting provisions in accordance with the international principles and guidelines that have been established and promoted by different authoritative organizations (Health Organization, 2021; Krueger et al., 2024; Lennox & Wu, 2022).

- **3.1. International Standards and Guidelines**
- The international standards and guidelines that have been thoroughly outlined in the preceding sections provide vital frameworks specifically aimed at influencing and driving the ongoing efforts in the domains of green finance and accounting. These comprehensive standards often originate from an array of diverse global initiatives and serve to guide nations comprehensively on the critical actions that banks, businesses, and individuals alike ought to undertake to align themselves effectively with a low emissions, sustainable future (Desalegn & Tangl, 2022; Bhatnagar & Sharma, 2022; Debrah et al., 2022). They are meticulously developed and widely ratified by a collaborative community of nations working concertedly together, thus acting as broader guiding principles that, once accepted by individual countries and jurisdictions, commonly take the name of global or international law. After these foundational principles are ratified, nations frequently go a step further by crafting their own specific laws, regulations, and policies to ensure that various organizations within their jurisdiction are operating in strict accordance with the global agreements that have been firmly established. This entire body of work constitutes national regulation in its purest form, and while there may be noticeable differences in the stringency and focus of these regulations from one nation to another, they remain fundamentally underpinned by those global agreements that were carefully settled at the international level (Weldon & Hoffman, 2021; Rogers et al., 2023; Bodansky & van Asselt, 2024).
- It has been highlighted earlier that uniformity in how organizations report on green finance and accounting products constitutes a crucial element in significantly boosting investor confidence in environmentally friendly finance offerings. However, an important question arises: what specific consequences occur when an institution is found prioritizing its own immediate economic interests while blatantly disregarding the established international protocols and ignoring the global standards and guidelines that have been meticulously put in place? As the thorough investigations conducted by relevant organizations make abundantly clear, international bodies are expected to take decisive, well-considered actions, including imposing suitable penalties when necessary. The noncompliance with reporting and compliance legislation may appear, at a glance, to be of minimal significance to the global community (Lu et al., 2022; Liang et al., 2024; Adeboye et al., 2023; Hao et al., 2023). Nonetheless, it actually carries substantial potential to inflict catastrophic impacts on the worldwide efforts that are being directed towards effectively conserving our precious natural resources and addressing the pressing challenges related to climate change. Everything related to these complex issues will be further explored and examined in detail below, yet it is essential to emphasize that international standards and guidelines are fundamentally our vital means of ensuring that all participants in the intricate financial system are making valuable and meaningful contributions to the international endeavor aimed at achieving sustainability in a holistic manner. A failure to adhere to these established standards ultimately affects us all on numerous levels, intertwining our fates as global citizens. International standards and guidelines play an essential and pivotal role in uniting the global community while tackling the numerous pressing sustainability issues we currently face together (Agrawal et al., 2024; Dikau & Volz, 2021; Macchiavello & Siri2022; Ziolo et

al., 2021; Kumar, 2022). The intricate landscape of the international financial system categorically does not operate within the confined boundaries of national borders, which adds layers of complexity to the matter at hand. Fortunately, these pivotal international agreements that aim to bring nations together are, at present, significantly bolstered by the remarkable progression of modern technological advancements, which offer new avenues for collaboration and enforcement. Regardless of whether you perceive them as mere rules or not, the profound impact of international standards resonates throughout our interconnected societies and economies, shaping the trajectory of future development. As a collective human race, it is unlikely that we will achieve a sudden and harmonious cooperation without the necessary support of a comprehensive series of regulations that interconnect and enable the larger 'system' to function effectively and adaptively (Adanma & Ogunbiyi, 2024; Jimmy2024; Youvan, 2024; Moch, 2024; Truman2022). This encapsulates the very essence of the values associated with promoting world peace through a cohesive ensemble of just and fair laws. We firmly believe that every individual and community should have something truly meaningful in the world that is worth striving for, and we ultimately hope that the vital cause of sustainability, along with our unwavering commitment to caring for the modern environment, will provide us with this invaluable and transformative opportunity as we move forward. (Leonardsson et al., 2021; Hariram et al., 2023; Nguyen et al., 2023; Coleman et al., 2021).

- **3.2. National Regulations**
- National regulations, rules, and standards play an absolutely crucial role in fostering the successful development and implementation of green finance. These regulations and standards are not merely arbitrary guidelines; they represent the essential stipulations for the effective transmission of international recommendations adapted to local specifics (Wang et al., 2022; Zhang et al., 2022; Huang et al., 2022; Akomea-Frimpong et al., 2022). This adaptation takes into account the most significant priorities that are unique to each particular country, ensuring that global initiatives mesh seamlessly with local needs. Moreover, there exist various mechanisms designed explicitly to stimulate the growth and expansion of green finance in different contexts, often manifesting in the form of state aid. These initiatives are focused on creating favorable macroeconomic conditions that encourage and facilitate investment in "green" projects and sustainable assets (Zhou et al., 2022; Irfan et al., 2022; Sadiq et al., 2022; Gu et al., 2021; Yin & Xu, 2022).
- Regulations can exert both a long-lasting and a short-term effect, depending heavily on the mechanisms of their impact. These can range widely from purely economic incentives to more complex market and social effects. It is noteworthy that, for identical actions or initiatives, different jurisdictions can employ varying mechanisms and tools to achieve their aims. At the level of national regulatory frameworks, specific rules governing accounting and reporting practices come into play. These rules accompany green finance—often referred to in tandem as "sustainable," "impact," or "Islamic" finance—along with corporate accounting requirements that take into account non-financial essentials (Akomea-Frimpong et al., 2022; Xu et al., 2022; Dong et al., 2021; Jin et al., 2021; Wang et al., 2022; Kumar et al., 2022).
- Countries around the world showcase a diverse landscape of tax benefits and unique accounting rules tailored to green finance. The implementation of new rules tends to have a greater impact when they are supported by a strong regulatory framework. Furthermore, the design and application of tax incentives, as well as the imposition of sanctions, must also be evaluated in the context of the existing market for tax consultants, as well as the offshore registration of capital. This multifaceted perspective highlights the

intricate balance needed to promote green finance successfully across different jurisdictions, ensuring not only compliance but also the encouragement of sustainable economic growth (Wang et al., 2023; Steuer & Tröger, 2022; Deb et al., 2024; Yadav et al., 2024).

• An in-depth survey of national financial and accounting regulation specifically focusing on "sustainable" finance executed by individual jurisdictions reveals that, in general, there is a noticeable trend of steady improvement concerning the national regulatory environment for "sustainable" finance. While some regulations may appear more detailed than international ones, they clearly correspond to and align with international recommendations. Additionally, domestic legal norms that underpin "sustainable" finance are often based on various international documents, sets of principles compiled by recognized international organizations, and widely accepted international standards (Wang et al., 2022; Lv et al., 2021; Sadiq et al., 2022; Akomea-Frimpong et al., 2022). Despite the concerted efforts of international regulators to persuasively present and advocate for global standards, the reality observed within individual jurisdictions indicates that there are substantial differences and varied shapes in a wide range of "sustainable" finance regulations. In the academic finance field, jurisprudential studies were conducted not long ago, employing ex-ante data to evaluate and predict the future behavior of participants in the arena of "sustainable" finance by examining the quality and content of legislation as well as the practices adopted by their regulators (Schütze & Stede, 2024; Chiu et al., 2022; D'Orazio & Thole, 2022; Dimmelmeier, 2023.) The significance of legislation encompasses the construct of legal transplants, which, while often implemented restrictively, still reflect a degree of similarity in approaches; there exists an unavoidable variable substitution between, in particular, the specific details of the jurisdiction and the characteristics of the legal norms; a wide variety of different types of legal adaptations; and many other factors. In this particular segment of the financial market, extensive literature concerning "sustainable" finance has been developed, contributing to an evolving knowledge base that aims to inform stakeholders and enhance the effectiveness of regulations aimed at promoting sustainable financial practices (Ziolo et al., 2021; Kumar et al., 2022; Akomea-Frimpong et al., 2022).

• **4. Accounting for Green Financial Products**

• There are relatively few regulations in the realm of accounting and financial reporting that specifically pertain to green financial products, which has sparked interest among researchers and practitioners alike. This study aims to conduct a thorough and detailed analysis of the accounting practices and reporting mechanisms that are currently utilized for green financial products in various financial markets. In this context, what is meant by green financial products within the scope of this study are those specific financial products that are deemed to be environmentally friendly and possess a direct impact on climate finance or illustrate a significant prioritization of their application toward programs, initiatives, or projects that are designed with environmental sustainability, conservation, and ecological health in mind (Lashitew, 2021; Lombardi & Secundo, 2021; Arvidsson & Dumay, 2022). Within the complexity of various accounting frameworks, green financial products can be categorized into several types, including but not limited to derivative financial instruments, equity instruments, or investment properties. However, it is essential to ensure an accurate and true representation of these products as they relate to the broader impact on intergenerational equity. Furthermore, there is a critical need for a proper equilibrium to be maintained between economic development, environmental welfare, and social welfare. These crucial elements are interconnected and play an important and decisive role in fostering a sustainable financial

landscape, one that promotes not only current growth but also a stable ecological future (Akomea-Frimpong et al., 2022; Sartzetakis, 2021; Macchiavello & Siri, 2022).

- In the field of reporting, it is essential that the process is firmly grounded in the fundamental principles of recognition and derecognition. This particular practice involves not only the clear acknowledgment of various financial transactions but also entails a detailed and comprehensive understanding of guidance specifically related to climate-related financial disclosures (Blums & Weigand, 2023; Brink, 2024; Janković & Roeben2022; Hecht, 2024; Blums & Weigand, 2021). Green finance, once officially recognized as a valid equity instrument, can be accurately detailed in the statement of financial position. In such instances, it is categorized as a non-current asset, reflecting its long-term value and potential usefulness. Conversely, any green finance that has undergone the process of derecognition will typically be accurately reflected in the statement of consolidated profit or loss, thus ensuring transparency and clarity in financial reporting practices (Umoh, 2024; Shanshool & Al-Mashhadani2024; Pidelaserra, 2024; Aseinimieyeofori, 2022).
- As asset management practices continue to expand in scope and complexity, it is anticipated that portfolio green finance will increasingly be calculated to encompass a significant proportion of total financial assets, estimating between 40% to 60%. This proportion underscores the pivotal role green finance plays in a modern portfolio. The selection of asset-backed instruments, particularly those manifesting in the form of well-structured loan portfolios, represents a strategic decision designed to effectively support the bottom-line investments of lenders involved in financing these green initiatives. This strategy not only aims to boost potential financial returns but also explores innovative financial approaches, including securitization, warehousing, and potentially the implementation of discount models, which allow sponsors or investors to allocate funds to projects that are being managed by these lenders (Lin et al., 2022; Gilchrist et al., 2021; Popescu et al., 2021; Taghizadeh-Hesary et al., 2021).
- Furthermore, the disposition of green finance entails a critical obligation, necessitating that an entity sacrifice a portion of its asset or lending portfolio, and this is often executed at a discount. This particular aspect distinctly reflects the underlying challenge of balancing the pursuit of profitability with the essential goals of sustainable investment strategies. When reporting on financial instruments that are positioned within accounts set to have settlements on defined specific dates, a robust framework is postulated. This framework reflects the value of the finance held—in terms of cost, amortization, or fair value—as a means of enhancing the clarity and accuracy of the overall financial picture presented to stakeholders across the board. The integration of such a clear reporting mechanism ensures that stakeholders are well-informed about their investments and the potential impacts of environmental considerations on their financial outcomes (Oladeinde et al., 2023; Azmat et al., 2022; AL-Hawamleh2024; Velte, 2022).

- **4.1. Classification and Measurement**
- Green loans and various financial products can be intricately classified based on a number of external performance metrics alongside their respective financial outcomes. Alternatively, these classifications can also rely on the precise financial impacts they exert on our environment, which adds another layer to the categorization process. The choice regarding which criteria to use for classification proves to be immensely critical, as it will significantly determine the population that we choose to study, influence the potential impacts and legitimacy of the accounting based on these classifications, as well as affect the entire population of information generated and the accounting statements that will subsequently

need to be meticulously prepared. Indeed, individual stakeholders are likely to demonstrate a considerably greater interest in the tangible environmental benefits that may be derived from having an insulating window installed, as opposed to merely considering it as yet another banking product being offered in the market (Roy, 2023; Al-Qudah et al., 2023; Gilchrist et al., 2021; Zhang et al., 2022; Lian et al., 2022). On a deeper financial level, there exists a significant potential to develop comprehensive methodologies aimed explicitly at effectively assessing various external environmental impacts. The essential size or value of any given financial product can be succinctly defined as the immediate environmental outcome resulting from the purchase of the asset that is financed, sourced, or facilitated through these specific financial products. This conscious choice of classification and criteria will also prompt the methods of valuation for these financial products to evolve, transitioning from a predominant focus on qualitative considerations and assessments toward a more robust and nuanced quantification of the specific environmental benefits that may potentially arise. These latter assertions constitute our preliminary working hypotheses, which will effectively guide and shape our subsequent exploration. In this particular section, we will diligently seek to substantiate this first assumption through systematic analysis and detailed discourse. Similarly, we need to closely investigate whether specific qualitative footnotes could reveal a lack of credibility and comparability, which might necessitate the establishment of entirely new accounting systems designed to accurately reflect these complexities. The primary question we face pertains to the accurate and reliable assessment of environmental impacts in a highly regulated financial landscape (Yadav et al., 2021; Sacchi et al., 2022; Settembre-Blundo et al., 2021). We will also explore the possibility of reaching a consensus among those who argue that external impacts and their consequential economic effects may or may not be fully quantifiable in any meaningful way. Conducting thorough evaluations of various pressing environmental issues implies, particularly in light of numerous ‘objective’ footnotes, a recognition of the undeniable link that exists between certain environmental pollutants and the elevated risk of developing a wide range of diseases, which can no longer be overlooked in financial discussions. We have deliberated extensively on how to effectively redefine the role of informed decision-making, particularly when confronted with significant environmental technical uncertainties that often muddy the waters. As part of this iterative process, we have put forth numerous rehabilitation tools and innovative concepts that require implementation, especially within the context of valuing environmental impacts accurately (Brumberg et al., 2021; Xu et al., 2022; Guo et al., 2022; Shin et al., 2021). By utilizing a concrete example as a reference point, we will further discuss these pressing questions from both an accounting and an elaborate financial perspective. Ultimately, we will review a variety of methodologies that are designed to assist either directly or indirectly in the production of comprehensive company ratings and evaluations regarding environmental performance. In conclusion, the specific discussions we are engaging in are relatively recent within the field, revolving around overarching questions regarding the credibility and comparability of balance sheets specifically pertaining to green finance and accounting, while rigorously evaluating the impacts associated with natural finances and how they are recorded. The foundational elements surrounding these critical topics can undoubtedly be found within the existing literature dedicated to the subject. Nonetheless, we will carefully consider several key points raised in this body of literature as we move forward with our detailed analysis and exploration of green financial products (Debrah et al., 2022; Dong et al., 2021; Kumar et al., 2022; Lv et al., 2021; Bakry et al., 2023).

- **4.2. Recognition and Derecognition**
- Recognition of high-quality green finance in financial statements should ensure not only the utmost accuracy but also transparency of the accounting information presented, precluding the reporting of items whose economic expansion could be considered both uncertain or dubious. Therefore, once reliable and widely accepted measurement standards are thoroughly determined and collectively agreed upon by relevant stakeholders, the next critical step involves defining the precise moment in time when a green financial asset or liability will actually be included in an entity's financial statement (Pham et al., 2023; Di et al., 2023; Khan et al., 2021; Ionescu; Ionescu, 2021). This consideration is essential for effective financial reporting. The crucial and often challenging question that arises in this specific context refers to the timing of when a financial instrument, along with its various components, including interest, as well as any premium or discount that may be embedded within, meets an entity's asset or liability criteria concerning recognition. Effectively defining the criteria for the recognition of any item means that its accounting reflection becomes irreversible, carrying with it significant implications for both the entity's financial standing and regulatory compliance. This reality points to the undeniable fact that recognition is invariably followed by the process of derecognition or decomposition of an asset at the level of its individual components if more than one criterion is met simultaneously or in conjunction. This emphasizes the need for rigor in accounting practices, ensuring that financial statements accurately reflect the organization's financial position and the nature of its obligations in the context of evolving green financial instruments. (Munday, 2021; Diallo, 2021; Bhatty et al., 2022; Ward & Pedersen, 2021; Strohn, 2021.)
- As for green or climate-friendly financial products that function under the umbrella of the overarching principle of recognition, it is imperative to note that the main principle emphasized within the existing regulatory and accounting standards is: a financial instrument should be entered into the balance sheet only when and solely when an enterprise becomes a party to the contractual provisions that accurately and comprehensively define that particular instrument. This critical recognition principle highlights that firms must diligently carry out all the necessary accounting postings concerning their green financial assets and liabilities precisely at the moment they meet the relevant measurement requirements that must be fulfilled for such recognition to take effect (Lukova, 2021; Judkowiak, 2021; Ebrahim & Abdelfattah2021; Selivanova et al., 2022). However, the task of establishing a precise criterion or a comprehensive set of criteria solely for recognition purposes can, at times, prove to be quite challenging and inherently complex. This complexity often arises from the lack of clarity and uniformity that can exist concerning the greenhouse gas (GHG) mitigation asset, as well as on both the financing and liability sides of the equation involved. Society and the financial community have generally adopted common criteria and metrics for identifying and classifying green finance products, yet it is of utmost importance to recognize that some boundaries of specificity are nevertheless required to rigorously assess and effectively evaluate the recognition process to ensure accuracy and reliability. (Coronado et al., 2022; Popescu et al., 2021; Edeling et al., 2021; Park & Jang, 2021). For financial products that are specifically designed to price a long-term GHG abatement exclusively, a standard criterion could potentially be set forth, focusing on performance assessment as its foundational basis. However, in cases where the financial products are pricing a variable amount of GHG based on diverse counterparty conditions or in cases of products that mix GHGs with other abated pollutants, it becomes increasingly clear that the recognition process will need to be far more stringent, meticulous, and robust (Riahi et al., 2022; Burke & Gambhir, 2022; Förster et al., 2022; Paul et al., 2023; Brauers, 2022; Pokhrel et al., 2021). Indeed, once the contract has been duly signed and executed, the input prices become known and fixed, and the future goals are distinctly

anticipated and outlined. In such scenarios, a financial enterprise would be required to firmly fix, at the very inception of the financial instrument, the initial valued amount of the abated service being provided. Furthermore, it must also accurately acknowledge the GHG for the residual warming effect predicted, based on the warming equivalent measured in terms of CO2 emissions, ensuring that the recognition process remains coherent and aligned with environmental objectives. (Rothman, 2023; Hvam & Hveem, 2023; Trouwloon et al., 2023; Shangguan et al., 2024).

- **5. Reporting Practices**
- Up to this point, the ongoing practice surrounding the dynamic evolution of the markets dedicated to green finance and the associated field of accounting, along with the relevant literature that surrounds this topic, clearly illustrates that a considerable amount of focused attention is devoted to the critical need for enhancing transparency within these sectors. This pursuit of transparency, in turn, plays a vital and indispensable role in forging a robust and resilient financial system that can withstand various challenges (Debrah et al., 2022; Jin et al., 2021; Zhang et al., 2022; Macchiavello & Siri, 2022). To achieve this overarching objective, it is essential to provide the disclosure of clear, detailed, and comprehensible data regarding the implementation of a comprehensive and cohesive system that encompasses a wide range of economic, environmental, and social indicators. In parallel to this initiative, it is noteworthy that the requirements and interests of diverse stakeholders have notably evolved and shifted in recent years. Stakeholders, including investors, consumers, and regulatory bodies, now seek to obtain significantly more detailed and nuanced information concerning a variety of environmental matters, and this desire extends to the presence and establishment of robust methodologies for thoroughly assessing how relevant these processes are for the purpose of ensuring a sustainable and viable future for various economic entities (Latilo et al., 2024; Baah et al., 2021; Di et al., 2022). This heightened focus on sustainability underscores the crucial importance of promoting good and responsible investment practices alongside the effective social functioning of businesses in today's complex world. To address these pivotal needs and objectives effectively, the endeavors outlined in this research initiative contribute to the creation of a comprehensive and articulate reporting framework that is specifically aimed at a meticulous improvement of environmental indicators, as well as other pertinent metrics, particularly those that have a direct impact on processes associated with environmental management and the increasingly interconnected realm of green financing. This alignment with innovative practices serves to reinforce the commitment to sustainability and responsible governance (Lai & Stacchezzini, 2021; Zhan and Santos-Paulino2021; Oladeinde et al., 2023; Katoue et al., 2022; Ziegenbalg et al., 2022).
- Work with reporting frameworks began with a thorough investigation of the extent to which some of these frameworks can indeed provide comprehensive information regarding environmental impacts. It is essential to understand how these frameworks can be and are actually designed for use, as well as the preferable methods for communicating environmental information to all relevant stakeholders involved in this process. In recent years, there has been a noticeable increase in efforts from international financial organizations, various governments, and professional institutions aiming to formulate foundational principles that guide the development and implementation of effective green financial regulation. This includes the establishment and evolution of relevant accounting rules and intertwined validating mechanisms which underpin this framework, along with the crucial disclosure and reporting processes that accompany these efforts (Dikau & Volz, 2021; Wang et al., 2022; Lee & Lee, 2022; Macchiavello & Siri2022; Jiakui et al., 2023).

• The practice of employing these tools in the current context, along with the existing literature on the subject, has significantly contributed to identifying reporting practices specifically in developing markets. However, it is worth noting that the conceptual framework being used for the advancement of accounting and reporting practices within the domain of green financing does not sufficiently take into account a multitude of different side options that may exist in various positions. Consequently, this oversight leads to the emergence of significant information gaps and challenges, which, in turn, creates threats to the overall contribution toward ensuring environmental safety and efficient operations (Chien et al., 2021; Hossain et al., 2024; Udeagha & Ngepah, 2023; Huang, 2022).

• Thus, the primary conclusion drawn from these studies suggests that it is indeed feasible to assess the level of reporting in relation to environmental impacts. Furthermore, it is possible to offer valuable information that can lead to improvements based on meticulous document analysis derived from case studies focused on the application of these tools in developed markets. This insightful information will undoubtedly aid in addressing the core issues analyzed in this study and contribute positively to the ongoing discourse in this vital area. (Sacchi et al., 2022; Haram et al., 2021; Lu et al., 2021; Gorjian et al., 2021).

• **5.1. Disclosure Requirements**

• When organizations engage in green finance activities, a multitude of elements should be incorporated into their financial report. Stakeholders are keenly interested in understanding what specific information might be included. In today's landscape, society increasingly demands enhanced transparency and unwavering accountability from companies across various sectors. Stakeholders not only expect organizations to adhere to an ever-growing list of legal and regulatory requirements, but they also anticipate that these organizations will prove themselves to be dependable and act in the interest of the public good (Steuer & Tröger, 2022; Ozili, 2022; Dong et al., 2021; Macchiavello & Siri, 2022; Taneja et al., 2022). Investors, or shareholders, commit their financial resources to these companies with the firm expectation of generating genuine value. They do not wish to witness their investments compromised by crises stemming from issues such as corruption, substantial product recalls, or protracted legal disputes. It is therefore essential that green activities undertaken by these organizations translate clearly into tangible value creation, thereby supporting and aligning with the organization's overarching mission and strategic objectives. This highlights the critical importance of developing a set of reliable and relevant indicators to demonstrate success in green initiatives. Additionally, it is vital to explicitly outline the limiting factors and constraints that accompany green finance activities, ensuring thorough communication with stakeholders regarding potential challenges (Alshukri et al., 2024; Yusuf et al., 2024; Hofstad et al., 2023; van Noordt & Tangi, 2023).

• Green financial activities, along with their related products and services, when executed properly and effectively, tend to receive strong support and approval from the market. This endorsement can lead to a significant increase in the credibility and attractiveness of these green financial initiatives. Currently, a number of financial institutions are increasingly paying attention to the best practices involved in green or social finance. This includes the important task of disclosing a range of required indicators along with other pertinent financial and non-financial information that reflects their commitment to environmental sustainability (Akomea-Frimpong et al., 2022; Debrah et al., 2022; Wang et al., 2022; Bhandary et al., 2021; Chen et al., 2022). However, despite these positive movements, there remains a notable lack of comparability in the information that is disclosed across different organizations. Various common barriers

can prevent organizations from providing transparent information regarding their environmental commitments. These barriers include issues such as the availability of data, the absence of a standardized framework within their respective industries, or the lack of reliable information generated intentionally under well-defined regulations. This also encompasses the associated costs of publishing poor results, which can deter organizations from full disclosure, along with an overarching regulatory uncertainty that looms over the financial landscape. Consequently, these challenges can pose significant obstacles for organizations as they strive to meet their reporting obligations effectively (Arvidsson & Dumay, 2022; Lashitew, 2021; Yu & Van Luu, 2021; Aluchna et al., 2023).

• Moreover, it is essential to draw attention to emerging trends that have been predicted regarding disclosure requirements in the financial realm. These future developments hint at a closer examination of prior disclosures as well. The landscape for accessing bank capital has undoubtedly become more challenging in the aftermath of the recent financial crisis, which has influenced banks to adopt a more cautious approach. They are now particularly keen on ensuring that the projects they choose to finance are not only feasible but also that they are duly compensated for the inherent risks they undertake when investing in such initiatives (Jejeniwa et al., 2024; Nembe et al., 2024; Odonkor et al., 2024; Rane, 2023; Challoumis, 2024; Jejeniwa et al., 2024). This evolution underscores the necessity for the financial sector to deepen its understanding of the numerous risks and opportunities that are fundamentally tied to green finance. To navigate these complexities successfully, it is imperative that financial entities are equipped with reliable and unequivocal information. In simpler terms, the advancement of green finance should be contextualized within the framework of accounting analysis, considering various countries and their respective banking sectors (Steuer & Tröger, 2022; Debrah et al., 2022; Akomea-Frimpong et al., 2022; Dalia & Vitaliy, 2021; Liu and Lai2021). This approach is vital to delineate what specific accounting specifications and commitments need to be established to promote greater transparency toward society, particularly with respect to credit institutions. Additionally, there will be growing indications concerning the accounting and tax treatment of different variations of ecological products or services. This understanding will help to ascertain whether the profits resulting from financing that employs dedicated funds are indeed worthwhile when balanced against the risks and possible reductions in commissions involved. It is anticipated that the fairness and equity of the premiums associated with such financial products will play a crucial role in establishing a defined standard for assessing environmental performance relative to similar financial offerings. (Opazo-Basáez et al., 2024; Bellassen et al., 2022; Al-Shaer et al., 2023; Kheireddine et al., 2024; Ha et al., 2024).

• **5.2. Integrated Reporting**

• Integrated reporting is an essential and pivotal concept that is intimately related to the practices of green finance and green accounting. The fundamental and overarching goal declared through the diligent process of integrated reporting, which harmoniously combines both financial and non-financial information all within a single comprehensive document, is to effectively showcase and illuminate the value of the organization in a more holistic and multifaceted way. This innovative approach signifies that financial metrics, social impacts, environmental considerations, and governance strategies, along with various performance measures, are all integral and vital components of the overall picture that conveys a richer narrative (Cinquini & De Luca, 2022; Turzo et al., 2022; Wijaya & Bens, 2022; Barna et al., 2021; Hakobyan et al., 2023).

- The primary advantages and determining factors behind the successful implementation of integrated reporting can be observed as enhancing stakeholders' understanding of the complete and intricate value created by the organization, as well as bolstering support for meaningful collaboration among them. An integrated report (IR) serves as a concise yet informative communication tool designed to detail how an organization's strategy, governance structures, performance metrics, and future prospects, all within the broader context of its external environment, interact synergistically to lead to the creation of lasting value. By doing this, integrated reporting not only serves to inform stakeholders but also actively fosters a stronger and more dynamic connection between the organization and its various audiences, promoting transparency, accountability, and trust in the process. This collaborative ethos underlines the importance of integrated reporting in a world increasingly focused on sustainable practices and responsible management (Velte, 2022; Al Amosh & Mansor, 2021; Raimo, 2021; Karwowski & Raulinajtys - Grzybek, 2021; Grassmann, 2021).
- The International Integrated Reporting Framework was published in December 2013, and the objectives there are to improve the quality of information among investors and other stakeholders that is useful in decision-making and the allocation of scarce financial resources. This follows the idea that a more interconnected "capitals-based" reporting framework will help to promote a longer-term view of the broader value that a business creates. Further, it shows how a business is using different capitals like natural, social, and human resources and not just financial and manufactured resources to create value. Some of the potential benefits of integrated reporting include clear strategy and more aligned goals; cross-departmental breakdown; improved decision-making on the ground; providing information that has some use in the short term. (Abhayawansa & Adams, 2021; Karwowski and Raulinajtys - Grzybek2021; Turzo et al., 2022; Baumüller & Sopp, 2021).

- **6. Challenges and Opportunities**
- This paper aims to meticulously analyze the concept of organizational awareness alongside the technical adoption of green finance practices, with a particular focus on the essential accounting and reporting aspect that underpins these activities. From a practical perspective, it is evident that green finance, while rapidly growing in popularity and importance, is still in the early and formative stages of its development. To articulate this further, the discussion presented in this paper provides a comprehensive perspective and raises several thought-provoking questions that currently remain unanswered, which are eagerly awaiting the continuative steps of further research: What does the market demand for those individuals and organizations who hold specific desires and wishes regarding sustainability issues? Additionally, what challenges does a bank or any other economic organization encounter while operating in the same environment that caters to the needs of customers and clients with these sustainability considerations? The previous sections of this paper have meticulously described the results of a qualitative case study in which these relevant topical issues and, to a certain extent, the connections among them, have notably emerged (Hou & Shi, 2024; Wasan et al., 2021; Paradise, 2022). New challenges that are introduced by the ongoing evolution of green finance can arise from a variety of complex causes, and these will be addressed through a process of finance transformation. This transformation is essential as it provides a means to foster new varieties of competitiveness along with an enhanced capability to innovate, particularly for a finance function that seeks to adapt and thrive. As we delve deeper, we observe a multitude of remarks and insights emerging from the extensive data collected throughout this study. These findings are significant as they contribute to the broader understanding of how organizations are engaging

with the principles of green finance and navigating the complexities that come with its implementation (Gilchrist et al., 2021; Akomea-Frimpong et al., 2022; Agrawal et al., 2024; Madaleno et al., 2022; Jiakui et al., 2023).

- This empirical study has been engaged here to define these complex phenomena, while clearly acknowledging that further studies in the future will be critically needed to enhance our understanding. The ongoing materiality debate and the perceived role of financial institutions in a migrating market are fundamentally important subjects worth exploring. (Freschet et al., 2021; Seibert, 2021; Bruggeman et al., 2021). The research reported herein is the result of inaugural steps taken to define significant research challenges through qualitative evidence garnered from the various practices offered during the comprehensive data collection process. One notable challenge that is generally recommended in the discourse consists of the continual updating of information as well as making concerted efforts to validate the findings of the study described in this document. To contribute meaningfully to sustainable practices, the field study presented herein encompasses a variety of practices that are not only focused on green finance, but also delve into the dimensions of green accounting as well. Current regulatory requirements and established reporting organizations for environmentally friendly financial products now expect banking and financial institutions, along with any organization offering green products rather than sticking to traditional options, to report their offerings through formal statements that clearly outline their practices (Kumar et al., 2022; Jamal et al., 2021; Glavič, 2021; Wren, 2022; Khan et al., 2021). Nevertheless, as the concrete case study evidences demonstrate, the new front-running dynamics of green and white industries may reveal that their most advanced stakeholders and investors are particularly interested in specific indicators, apart from any additional value that might be captured by the mentioned indicators. This evolving landscape requires not only an updated and refined accounting language but also the clear identification of what these key indicators should consist of, as explicitly requested by the very players in the relative market who are deeply engaged in this field (Shoetan & Familoni, 2024; Hale et al., 2022; Dröge et al., 2021; Davies & Bellington, 2024).

- **6.1. Technical Challenges**
- In the process of supplementing or even replacing traditional performance measures, which have been primarily based on financial criteria, organizations encounter a multitude of technical challenges that arise during the implementation of green finance and accounting practices. The development, along with the adoption, of suitable metrics that accurately reflect the environmental impact of various organizational activities is central to understanding and addressing these difficulties. However, it is important to note that several additional challenges are also connected to these complex and multi-dimensional issues. These challenges encompass a wide range of considerations, including the need to achieve a consistent approach across diverse types of finance products and various banking systems. Moreover, there are significant hurdles associated with the data collection processes that must be navigated effectively (Chien et al., 2021; Debrah et al., 2022; Akomea-Frimpong et al., 2022; Akomea-Frimpong et al., 2022).
- Furthermore, the integration of green finance with established financial measures presents another level of complexity, requiring careful consideration and strategic planning. Ensuring that the necessary regulatory approvals can be secured adds yet another layer of challenge to the equation. A common thread that is present across all of these concerns is the critical issue of the credibility of the measures that are utilized. This raises important questions, as disputes often emerge regarding what should be considered 'real'. Additionally, there are questions of intentionality that need to be addressed, pertaining to what is

actually measured in practice versus what ought to be measured in an ideal situation. These debates highlight the inherent complexities organizations face as they strive to navigate the evolving landscape of green finance and accounting (Zhang et al., 2022; Agrawal et al., 2024; Zheng et al., 2021; Debrah et al., 2022; Dong et al., 2021).

- An ability to collect appropriate, relevant data and metrics effectively represents a further significant technological issue that must be addressed. Consequently, both finance and accounting professionals are expected to require more specialized, in-depth, and sophisticated backgrounds, as well as qualifications that are more advanced than those traditionally expected. In addition, fitting these innovative products and practices seamlessly into established systems and existing reporting frameworks will also prove to be more complex and challenging. For instance, if a product is not particularly novel or unique, how can it be said to have an impact that is additional to what has already taken place in the past? (Kroon et al., 2021; Tiron-Tudor et al., 2021; Tsiligiris & Bowyer, 2021; Verma et al., 2022). This leads to the critical question of what will actually constitute meaningful measures of this impact. Given these numerous difficulties, failing to innovate and adapt further may result in the absence of any commercial edge that can adequately compensate for the technological constraints that are associated with measuring various externalities. As a result, organizations will require increasingly sophisticated measurement tools and methodologies to accurately capture the broader environmental and social consequences of these innovative products and practices. It is highly likely that these ongoing challenges will necessitate continuous innovation to enhance their measurement capabilities (Mughal2022; Marion and Fixson2021; Ali et al., 2023; Ghazal et al., 2021; Shantilawati et al., 2024). This focus on measurement innovation is, of course, central to creating and evidencing new value in these practices for clients, ultimately leading to enhanced service offerings. In order to effectively address these challenges, organizations may need to significantly increase their 'data gathering' activities by integrating various criteria into their existing systems while also utilizing diverse and comprehensive sources of information. Moreover, they will need to critically judge the extent to which the data used for external assessments is kept proprietary and confidential or made public. Perhaps even more critically, they will need to work diligently to build a strong consensus among all relevant stakeholders regarding which practical assessment tools and methodologies should be adopted for the best results moving forward. (Do et al., 2022; Taherdoost2021; Ranjan & Foropon, 2021; Awan et al., 2022; Valeri & Baggio, 2021; Sheng et al., 2021; Anwar & Abdullah2021; Lam et al., 2021; AlTaweel & Al-Hawary, 2021).

- **6.2. Market Opportunities**
- The rapid pace with which the green finance market is growing clearly shows that the transition to a climate-neutral and environmentally friendly financial system is not only one of the most significant challenges of our time but also presents a remarkable opportunity for the financial sector to innovate and expand. The consumer preference for sustainable products is growing robustly among major generational cohorts, particularly millennials, and this shift can be attributed to numerous factors such as overall income growth, the emergence and rise of virtual financial communities, an enhanced demand for transparency in financial practices, and an increasing trust in organizations that prioritize sustainability. Given that the entire world is moving towards adopting financial solutions that accurately reflect important environmental, social, and governance considerations, it is no surprise at all that market forecasts consistently highlight the growing value and demand for green financial products. (Moo-Ung & Cha, 2024; Thangavel et al., 2022; Agustina et al., 2024; Finley et al., 2024; Zhu et al., 2024; Cisco & Gatto,

2021). As we have previously explored and discussed throughout this comprehensive chapter, governmental affairs or policies, particularly those policies set forth by foreign governments, are also specifically intended to set and influence significant trends for the growth of green finance. Another critical factor is the strong push towards collaboration and partnerships that actively promote accountable stakeholders as well as talented and experienced individuals within financial institutions. These efforts are designed to support and effectively leverage essential environmental, social, and governance initiatives while also striving to provide effective and accountable returns for investors who are increasingly interested in sustainability-driven opportunities (Irfan et al., 2022; Gu et al., 2021; Wang et al., 2021; Zhang et al., 2021; Lv et al., 2021; Li & Umair, 2023).

- A comprehensive report finds that over the extensive 20-year period stretching from 2019 to 2050, the European Union will require approximately EUR 175 billion dedicated to sustainable energy sources. This significant financial requirement highlights the urgency and importance of transitioning to more renewable energy options. A recent survey effectively identifies numerous opportunities not only for existing financial products that are specifically tailored to address investment gaps but also for fulfilling the ever-growing demand emerging from companies, institutional investors, and consumers alike (Matuszewska-Janica et al., 2021; Sikkema et al., 2021; Chang et al., 2022; Strielkowski et al., 2021; Wolniak & Skotnicka-Zasadzień, 2022; Genovese et al., 2023; Kougias et al., 2021). This demand is particularly prominent with respect to innovative, broadly accessible 'retail' or 'small customer' products designed to cater to a wider audience. In light of this, it is crucial for professional training programs and university education to place specific focus on sustainability issues. They should offer not just a variety of investment options, but also provide robust investor-customer support derived from cultivated knowledge and developed capabilities. Furthermore, strong advocacy for this notion emphasizes the pressing need for participants within the financial markets to proactively engage with and effectively influence public policy that surrounds green finance. By doing so, they can more adequately align and enable the diverse needs and goals of all involved participants within the market landscape (Zheng et al., 2021; Wang & Wang, 2021; Sadiq et al., 2022; Dikau & Volz, 2021; Gilchrist et al., 2021).

- **7. Case Studies**
- While in principle, green finance facilities can indeed be provided by a wide variety of entities ranging from central banks to microfinance providers, my focus has been specifically on the experience of what remains the predominant source for such facilities: established commercial financial institutions that offer a comprehensive range of services to corporate, institutional, and retail clients alike. I have chosen to concentrate on this particular segment because the strategies and experiences of these institutional investors tend to be generally reflective of, and are directly influenced by, the active pursuit of a sophisticated, dynamic, and evolving corporate environmental strategy that aligns with contemporary sustainability goals. (Debrah et al., 2022; Akomea-Frimpong et al., 2022; Zhang et al., 2021; Zhang et al., 2022; Khan et al., 2022).
- The case studies meticulously draw together and synthesize the findings of preceding chapters to provide corporate and financial market executives with detailed and actionable lessons gleaned from their peers and counterparts operating in the same sphere. Through comprehensive case studies, we effectively demonstrate how and where the strategies employed by corporations can have a substantial, profound effect on the finance function within these corporations and also on the financial institutions that service them. Furthermore, we illustrate how these evolving strategies can drive significant changes in the roles

on the investment side of leading financial institutions, influencing their operations in the process. By thoroughly examining several different industries and diverse types of financial institutions, our overarching intention is to vividly bring these findings to life, richly substantiated by the real-world experiences and insights of executives who provide a wealth of relevant examples across many more organizations that are actively working on this critical issue (Su et al., 2022; Mayer, 2021; Chen & Zhang, 2021; Rane et al., 2024; Challoumis & Eriotis, 2024).

• The seven detailed cases presented in this section have been thoughtfully organized under five distinct headings; a diverse array of sectors and varied business models are profiled within each of these categories, and the individual cases are specifically designed to be mutually reinforcing and to complement one another. For each case examined, the initial focus is the significant impact that corporate culture has on the effective provision of financial products aimed at promoting sustainability and enhancing environmental management (Bienert, 2023; Arise a& Muzuva, 2024; Jaganjac et al., 2024; Guo & El Yazghi, 2024; Morgan et al., 2024; Howard-Grenville and Gapp2022). The investigation then delves into exploring the interest generated both internally within organizations and externally among consumers and stakeholders in such sustainable products. This also includes an examination of the thoughtful design and motivation behind innovative green product offerings, as well as the complex processes involved in successfully entering the sustainable finance business. In the course of our comprehensive survey and detailed review, we uncover a variety of strategic challenges that invariably accompany the critical decisions to embark on the journey into the realm of green finance; these challenges will likely be prominently highlighted through their decision-making processes and practical experiences. Key structural lessons and insights regarding the potential trajectory of sustainable finance are thoroughly reviewed across all of the cases within the penultimate section, providing invaluable lessons for prospective entrants into the sustainable finance field and presenting a rich, aspirational vision for what such a transformative field could ultimately achieve in the future (Baah et al., 2021; Kahupi et al., 2021; Fobbe & Hilletofth, 2021; Awan et al., 2021).

• **7.1. Financial Institutions**

• This section presents a comprehensive collection of eight detailed case studies that showcase green finance in action at various financial institutions located across the world. These case studies were meticulously conducted between June 2020 and December 2021, providing a thorough examination of the practices employed by each institution. Each case study has undergone a careful revisit during the final validation phase that took place between September and December 2021, and any relevant updates and modifications have been reflected within this informative booklet. The institutions included in this collection have been identified as pioneers and leaders in the rapidly evolving field of green finance; in fact, some of these institutions have been developing and offering green financial services for more than an impressive two decades. It is noteworthy that all but one of the eight institutions featured are commercial banks, with four of them operating as subsidiaries of larger parent banking companies. (Udeagha & Muchapondwa2023; Hossain et al., 2024; Lee & Lee, 2022; Sethi et al., 2024). While the majority of the institutions studied in this extensive collection are headquartered in Europe, thoughtful adaptations have been made to adequately include case studies of institutions that are based in North America and Oceania as well. Certain case studies within this collection specifically focus on green finance practices that are applied comprehensively across entire institutions, while other case studies primarily concentrate on the targeted activities and initiatives of internal subsidiary teams that have been

established specifically for the important purpose of implementing green finance initiatives effectively and efficiently (Debrah et al., 2022; Akomea-Frimpong et al., 2022; Zheng et al., 2021; Agrawal et al., 2024; Gilchrist et al., 2021; Wang et al., 2022).

• The case studies presented in this research comprehensively cover a diverse range of institutions that have fully embraced and adapted a whole-of-institution approach, where green finance accounts for only a small yet significant portion of their overall institution operations. Conversely, there are also examples of institutions that have chosen to adopt a more targeted approach by focusing on specific financial products explicitly designed to support and facilitate green investments. Among the financial institutions featured in these illuminating case studies are those entities that have effectively utilized their leadership roles and new functions to catalyze a transformative change in their operational approach and business model, ultimately benefiting not only their own institutions but also the broader society in which they operate (Jin et al., 2021; Zhang et al., 2021; Debrah et al., 2022; Li & Umair, 2023; Yu et al., 2021). In contrast, there are institutions that have initiated their journey into green financing as part of larger shifts in their business models and strategies, responding proactively to emerging environmental and societal needs. Throughout this document, we have integrated a deliberate language that communicates several 'lessons learned' which have been meticulously derived from a nuanced analysis of both notable successes and noticeable failures observed in these various cases. This in-depth research has successfully identified a mixed and varied range of driving factors that have influenced the development and subsequent implementation of innovative green financial products (Kasdan et al., 2021; Sadiq et al., 2022; Navickas et al., 2021; Sinha et al., 2023).These factors include the context in which the emergence of green financial products has taken place, particularly whether the environment has been bolstered by internal mechanisms or driven by external factors; the degree of influence exercised by line management and/or executive leadership versus whether the initiative has been sparked from other areas within the business; the extent to which any established regulatory frameworks have provided clear guidance on the type and specific focus of green financial products; and, lastly, the level of internal and external stakeholder engagement, which includes comprehensive surveying, ongoing feedback, and thorough consultation that have played a crucial role in informing the development of these products (Xu et al., 2022; Zheng et al., 2021; Agrawal et al., 2024; Tong et al., 2022; Bhatnagar & Sharma, 2022; Hsu et al., 2021; Akomea-Frimpong et al., 2022).

• **7.2. Corporations**

• Some corporations are not merely contemplating the significance of corporate social and environmental responsibility; rather, they have proactively engaged in working with green finance and implementing various financial product initiatives that reflect their commitment to sustainability. In this subsection, we delve deeper into two detailed case studies and elaborate on their unique strategies and tactical approaches, as well as the current state of play in the development and marketing of green or sustainable financial products (Wang et al., 2022; Sadiq et al., 2022; Debrah et al., 2022; Chien et al., 2021). We will discuss the numerous advantages and challenges that accompany such an innovative approach, highlighting a few strong examples of successful products and strategic positions within the market. The case studies presented indicate that, although there were some initial challenges to contend with, financial service providers ultimately reaped considerable positive goodwill and experienced a significant increase in new customer traffic as a direct result of integrating green financial products into their primary portfolio of retail banking services. To successfully establish a green finance and financial

product initiative, a combination of vision and perseverance is essential; interestingly, the size and scale of the enterprise appear to be of less importance in this context. (Sakas et al., 2024; Mogaji et al., 2021; Sakas et al., 2024; Ahmad et al., 2025; Olorunyomi et al., 2024).

• In relation to the strategic positioning of financial products, it is particularly noteworthy that the 'self-service' credit model was mentioned twice by interviewees. This innovative approach allows customers to select both the returns they wish to receive and the specific projects they believe should receive investment, all in accordance with established green criteria. The lessons learned from the case studies focus closely on effective positioning and marketing strategies, as well as the positive impact that this kind of corporate social responsibility activity has on enhancing customer relationships (Schmitt et al., 2022; Karmarkar, 2021; Froehlich et al., 2022; Piepponen et al., 2022; Musteika, 2021). Furthermore, there is compelling evidence highlighting collaboration between a corporation and a bank, aimed at facilitating the extension of loans to a corporation that benefits from being insured through this strategic partnership. The experiences garnered from these innovative corporations provide valuable insights and actionable guidance for other companies seeking to advance successfully in the realm of green finance. The research findings also underscore a considerable potential for green financial products within the market, even in the absence of maintaining 'pure green' expectations, demonstrating that healthy profit margins can indeed be achieved while still prioritizing sustainability (Akomea-Frimpong et al., 2022; Ozili, 2022; Lin et al., 2022; Debrah et al., 2022; Zhang & Umair, 2023; Gilchrist et al., 2021).

• 8. Future Directions

• Emerging societal, environmental, and technological trends are poised to significantly shape the financial landscape over the coming years in a variety of ways. These trends will likely influence the regulatory, policy, investment, institutional, and corporate environments, as well as the accounting and reporting systems that corporations must adhere to in order to remain compliant. Among these developments, several noteworthy trends could be particularly significant for the future of the markets, and on the back of these trends, the field of green accounting and finance is expected to continue its upward trajectory (Kroon et al., 2021; Garanina et al., 2022; Olorunyomi et al., 2024; Murinde et al., 2022; Allioui & Mourdi, 2023). Noteworthy trends include, but are certainly not limited to, rapid advancements in technology that foster innovation, an increasing preference among consumers for more sustainable products and services by participants in the economy who possess combined purchasing power, evolving planetary limits that can be anticipated to drive changes in the ways that individuals and firms behave and operate in the markets, and governmental responses — such as adjustments to fiscal policy — aimed at addressing these emerging trends and mitigating associated risks. These elements collectively shape a complex interplay that will likely define the future of finance and corporate responsibility (Khorram-Manesh et al., 2024; Aven & Zio, 2021; Tambo et al., 2021; McIntosh et al., 2024; Igbinenikaro & Adewusi, 2024).

• Collectively, these significant developments are likely to have a considerable impact on the manner in which regulators, financial institutions, and companies produce, share, and utilize environmental data within their decision-making processes. Similarly, these emerging trends suggest that there will be an increasingly prominent role for enhanced financial and non-financial disclosure related to material environmental activities and the associated relationships with their stakeholders. This evolving landscape, in turn, indicates that it would be highly beneficial for regulators to proactively begin to adapt the accounting and disclosure regulation process in order to facilitate these necessary changes, rather than

merely operating in isolation from the impending needs of the markets or, worse yet, working counter to them (Adeniran et al., 2024; Singhania et al., 2024; Petcu et al., 2024). Furthermore, we firmly believe that sustained company training, the development of stakeholder capacity, and ongoing educational activities are fundamental to further embedding sustainability reporting that effectively utilizes green finance principles and actively avoids the pitfalls of 'greenwashing.' A multitude of potential areas for future investigation is proposed under the following headings: collaborative research initiatives, institutional change dynamics, core green behavior and associated tools, mixed finance platforms, the assessment of environmental damage, and the exploration of innovative business models. These areas not only warrant in-depth exploration but also hold the potential to reshape how environmental considerations are integrated into the fabric of business practices (Opferkuch et al., 2021; Bilderback, 2024; Van Holt & Whelan, 2021; Mio et al., 2022).

- **8.1. Emerging Trends**
- This report has diligently sought to map out and analyze the current international landscape of accounting and disclosure practices for environmentally friendly financial products, while also identifying and exploring emerging trends. In this section of the report, we thoroughly discuss these trends and examine some of the significant drivers that are influencing them, drawing insights from critical financial management literature focusing on fintech developments, ESG metrics, and relevant policies (Dhar et al., 2022; Zarzycka & Krasodomska, 2022; Singhania & Saini, 2023). Over the course of the last four years, there has been a notable increase in awareness and knowledge regarding ASFFs, and simultaneously, the market for green finance is undergoing significant changes and transformations. The trends that are currently emerging are setting clear directions for the sector, and it is highly advisable for both financial institutions and policymakers to closely track these evolving trends. By doing so, they can effectively influence developments across various areas of finance and compliance, ensuring that they are aligned with the latest shifts in the landscape of environmentally friendly financial products (Qian et al., 2024; Chotchantarakun, 2023; Wu et al., 2024; Lin et al., 2024; Ubaid, 2021).
- The penetration of technology in the finance sector has become increasingly evident through the remarkable success of various start-ups and the recent relaunch of an innovative platform targeting the European savings market. In this dynamic environment, several promising directions for development have been identified, particularly concerning the integration of fintech solutions with green finance initiatives. Among the most noteworthy advancements, lending apps have steadily demonstrated a significant increase in their number of downloads, especially in regions like the UK and the USA, where consumer interest is rapidly growing (Fu & Mishra, 2022; Roa et al., 2021; Kamau et al., 2023).
- Moreover, the popularity of savings apps, alongside tech-driven platforms that focus on green savings, has notably surged in the UK. These applications are not just simple tools; they represent a broader movement towards sustainable financial practices. In addition, various types of asset managers, including robo-advisors, are beginning to connect green finance options with the needs and expectations of experienced investors. Ultimately, the merging of technology and its undeniable appeal to society can be leveraged to effectively integrate green banking practices into the financial system at large (Farghali et al., 2023; He et al., 2022; Almasri et al., 2024; Ghalehkhondabi et al., 2024; Kwon et al., 2024).
- The increasing presence of these apps and platforms is indicative of a significant change in consumer behavior, highlighting a growing need for a shift towards more sustainable financial markets. As users begin to engage more deeply with these technological innovations, their impacts on traditional

financial paradigms will be profound, paving the way for a more environmentally-conscious approach in the finance industry. This trend not only reflects changing attitudes among consumers but also underscores the potential for a comprehensive transformation within financial ecosystems (Khalfaoui et al., 2022; Arif et al., 2021; Lin et al., 2022; Alsagr and Van2021; Velte2021).

- **8.2. Research Agenda**
- We propose a research agenda that is both comprehensive and meticulously organized, prominently featuring four crucial and highly significant areas of future investigation that are essential for the ongoing advancement, refinement, and development of vital insights related to the ever-evolving field of green finance and accounting. These areas are of utmost importance and warrant serious attention in light of contemporary environmental and financial challenges: (Agrawal et al., 2024; Akomea-Frimpong et al., 2022; Wang et al., 2021).
- 1. The regulatory impact of green finance and accounting practices, which includes an in-depth and detailed exploration of best practices within this dynamic and rapidly evolving domain. This exploration aims to unravel the complexities and nuances inherent in current regulations, ensuring a thorough understanding of their effects on market behavior as well as corporate responsibility. By analyzing the interplay between regulations and market activities, we can better comprehend how policies shape corporate actions and consumer behavior within the green finance landscape (Agrawal et al., 2024; Xu et al., 2022; Zhang et al., 2021; Zhang, 2022).
- 2. Theoretical frameworks and the active expansion of foundational concepts surrounding both finance and accounting practices, particularly in direct relation to sustainability and environmental impact. This aspect will necessitate the integration of new theories that challenge existing paradigms while simultaneously promoting innovative approaches to sustainable finance and accounting measures. The evolution of theory is critical as it lays the groundwork for practical implementations and assessments in the field, fostering new methodologies that align with contemporary sustainability goals (Kumar et al., 2022; Popescu et al., 2021; Ziolo et al., 2021; Wang et al., 2021).
- 3. A truly interdisciplinary approach to effectively and comprehensively addressing the complex challenges that are interconnected with various green finance and accounting issues across different disciplines. Such an approach would integrate insights from social sciences, environmental studies, and economics, creating holistic solutions that are far more effective in tackling the multifaceted challenges at hand. This synergy of disciplines can lead to a more enriched understanding of how financial practices can align with environmental sustainability and corporate social responsibility (Toromade et al., 2024; Raihan, 2023; Bertrand-Krajewski, 2021; Al-kfairy et al., 2024).
- 4. An imperative and pressing need for empirically based research to thoroughly underpin and support the theoretical frameworks developed in the preceding studies and discussions. When considering the various aforementioned barriers, if this extensive research successfully cultivates a more comprehensive, nuanced, and clearer understanding founded on solid and robust empirical evidence, it may ultimately provide substantial benefits not only for academics who delve into these interconnected topics but, more importantly, for policymakers and regulators as well. These key stakeholders strive to achieve a degree of transparency that is essential in securing the optimal utilization of capital and investments at the corporate level, particularly in connection with environmentally and socially preferable activities (Ozili, 2022; Tong et al., 2022; Wang et al., 2021; Singhania et al., 2024).

- As our overall understanding of green financial products, along with the regulations surrounding green finance and accounting best practices, remains considerably underdeveloped, highlighting several key areas for future research is absolutely vital. This would lay out a targeted research agenda based on the critical knowledge gaps identified previously within this document. In the subsequent paragraphs that follow the current discussion, we will address various potential and specific research questions that are specially designed to bridge these pronounced gaps in knowledge across the four identified themes and areas of interest that we have outlined (Singh et al., 2023; Agrawal et al., 2024; Lv et al., 2021; Debrah et al., 2022; Abid et al., 2022; Chien et al., 2021).
- It is equally important to underline that one significant and promising direction for researchers engaged in the scholarly study of regulation and accounting is to focus on those endeavors and studies that are methodologically aligned with existing reports and findings. This means placing a particular emphasis on those investigations that adhere closely to the legal parameters defining what distinctly constitutes 'green,' while being mindful of the reality that the central aim is not primarily focused on exploring the true availability of 'additionality.' However, the methodology employed in systematically executing this intent at the regulatory discursive level remains somewhat unclear and, as such, requires further extensive investigation and analysis to derive meaningful conclusions and actionable insights (Li et al., 2023; Aschbrenner et al., 2022; Osaba et al., 2022; Olmos-Vega et al., 2023).

9. Authors' Biography

- He was born in 1986 in Nizip district of Gaziantep. He completed his primary education at Cumhuriyet Primary School in 2000 and his high school education at Nizip Hasan Çapan Anatolian High School in 2004. In 2005, he enrolled in the Mathematics Department of Atatürk University Faculty of Science and studied Chemical Engineering for a while as part of the double major program in 2007. He graduated from the Mathematics Department with a degree and high honors in 2009 and started his thesis-based master's degree in Geometry at Atatürk University Institute of Science the same year. After receiving academic English preparatory education at Atatürk University Institute of Science, he transferred to the Algebra and Number Theory Department at Gaziantep University Institute of Science. He taught as a part-time instructor at Gaziantep University Gaziantep Vocational School in the 2009-2010 Academic Year. In 2010, he started his Pedagogical Formation education at Gaziantep University and completed this education in 2011. In the 2011-2012 Academic Year, he started working as a Mathematics Teacher at Gaziantep College Foundation Private High Schools, which was founded in 1963 and is the first and oldest private school in Gaziantep. In the same year, he started writing student information processing and measurement and evaluation software at Gaziantep College Foundation Private Schools. In 2012, he started his undergraduate education at Anadolu University, Faculty of Business Administration, Department of Business Administration. While he was going to start his duty as the Gaziantep College Foundation Information Processing Manager in the 2012-2013 Academic Year, he was appointed as a lecturer at Gaziantep University Oğuzeli Vocational School in 2013. In 2014, he was appointed as the Deputy Head of the Department of Management and Organization at Oğuzeli Vocational School and with the bilateral agreement of Gaziantep University, he started his doctorate studies at South-West University "Neofit Rilski" (Bulgarian State University) on Computer and Mathematics with the thesis topic "Software Defined Networking and Information Security". He completed his BA in Business Administration in 2015. In 2015, he started his BA in Sociology at Atatürk University Open Education Faculty and Law education at Gaziantep University Faculty of Law. In 2016, he started his MA with thesis education at the

Department of Business Administration at Gaziantep University Institute of Social Sciences and in the same year, he was appointed as the Deputy Director (Principal), Head of the Department of Computer Technologies (Principal), Head of the Department of Law (Acting), and Chairman of the Advisory Board at Gaziantep University Oğuzeli Vocational School. He completed his Master's degree in Business Administration with a Thesis at Gaziantep University, Institute of Social Sciences on 18.01.2018 and started his PhD education in the Department of Analysis and Theory of Functions at the Institute of Science, Mathematics in the 2017-2018 Academic Year. In the 2018-2019 Academic Year, he won a TUBITAK domestic PhD scholarship and transferred to his PhD education at the Department of Business Administration at the Gaziantep University, Institute of Social Sciences. He completed his PhD education with a focus on law at the Gaziantep University, Institute of Social Sciences, Business Administration in 2022 and has numerous published proceedings, articles published in SCI-Expanded & Scopus indexed journals and books published by various publishing houses. Dr. Mehmet Ali YÜZBAŞIOĞLU's completed and ongoing education at the BA, MA and PhD levels are as follows; Gaziantep University, Faculty of Law, Bachelor’s Degree (Completed), Ataturk University, Department of Mathematics, Bachelor’s Degree (Completed), Anadolu University, Business Administration, Bachelor’s Degree (Completed), Ataturk University, Sociology, Bachelor’s Degree (Completed), Anadolu University, Management Information Systems, Bachelor’s Degree (Completed), Istanbul University, Child Development, Bachelor’s Degree (Completed), Anadolu University, History, Bachelor’s Degree (Continuing), K.S.Ü. - Computer Engineering, Bachelor’s Degree (Continuing), K.Ü. - English Language and Literature, Bachelor’s Degree (Continuing), Gaziantep University, Faculty of Law, Master's Education (Completed), Gaziantep University, Department of Business Administration, Master's Education (Completed), A.Y.Ü. - Cyber Security, Master's Education (Continuing), Gaziantep University, Department of Business Administration, PhD Education (Completed). The Undergraduate, Master's and Doctorate Educations that Dr. Mehmet Ali YÜZBAŞIOĞLU had to leave unfinished or could not complete are as follows; Anadolu University, Economics Undergraduate Education, Atatürk University, Chemical Engineering Undergraduate Education, Atatürk University, Geometry Department Master's Education, Gaziantep University, Mathematics Department PhD Education, South-West University, Computer Science PhD Education, University of Finance, Business and Entrepreneurship PhD Education. The scholarships and awards that Dr. Mehmet Ali YÜZBAŞIOĞLU has been entitled to receive are as follows; State Free Dormitory and Scholarship, TÜBİTAK Domestic PhD Scholarship.

References

1. Abhayawansa, S. & Adams, C. (2021). Towards a conceptual framework for non-financial reporting inclusive of pandemic and climate risk reporting. Meditari Accountancy Research. worktribe.com
2. Abid, N., Ceci, F., Ahmad, F., & Aftab, J. (2022). Financial development and green innovation, the ultimate solutions to an environmentally sustainable society: Evidence from leading economies. Journal of Cleaner Production.
3. Adanma, U. M. & Ogunbiyi, E. O. (2024). Evaluating the effectiveness of global governance mechanisms in promoting environmental sustainability and international relations. Finance & Accounting Research Journal. fepbl.com
4. Adeboye, E., Labisi, G., & Ekere, V. (2023). Towards Robust Climate Finance Accounting: Implications for the Us Economy. Available at SSRN 4830146. ssrn.com

5. Adeniran, I. A., Abhulimen, A. O., Obiki-Osafiele, A. N., Osundare, O. S., Agu, E. E., & Efunniyi, C. P. (2024). Strategic risk management in financial institutions: Ensuring robust regulatory compliance. Finance & Accounting Research Journal, 6(8), 1582-1596. researchgate.net
6. Agrawal, R., Agrawal, S., Samadhiya, A., Kumar, A., Luthra, S., & Jain, V. (2024). Adoption of green finance and green innovation for achieving circularity: An exploratory review and future directions. Geoscience frontiers, 15(4), 101669. sciencedirect.com
7. Agustina, T., Susanti, E., & Rana, J. A. S. (2024). Sustainable consumption in Indonesia: Health awareness, lifestyle, and trust among Gen Z and Millennials. Environmental Economics. researchgate.net
8. Ahlström, H. & Monciardini, D. (2021). The regulatory dynamics of sustainable finance: Paradoxical success and limitations of EU reforms. Journal of Business Ethics. springer.com
9. Ahmad, M., Bangash, S. A., Rusho, M. A., Halder, S., & Shahzadi, I. (2025). Using OpenStreetMap Data for Geomarketing Insights and Business Growth. In Pioneering Approaches in Data Management (pp. 133-156). IGI Global Scientific Publishing.
10. Akomea-Frimpong, I., Adeabah, D., Ofosu, D., & Tenakwah, E. J. (2022). A review of studies on green finance of banks, research gaps and future directions. Journal of Sustainable Finance & Investment, 12(4), 1241-1264. researchgate.net
11. Akomea-Frimpong, I., Kukah, A. S., Jin, X., Osei-Kyei, R., & Pariafsai, F. (2022). Green finance for green buildings: A systematic review and conceptual foundation. Journal of cleaner production, 356, 131869. researchgate.net
12. Al Amosh, H. & Mansor, N. (2021). Disclosure of integrated reporting elements by industrial companies: evidence from Jordan. Journal of Management and Governance. researchgate.net
13. AL-Hawamleh, A. (2024). Cyber resilience framework: Strengthening defenses and enhancing continuity in business security. International Journal of Computing and Digital Systems, 15(1), 1315-1331. researchgate.net
14. Ali, S., Abuhmed, T., El-Sappagh, S., Muhammad, K., Alonso-Moral, J. M., Confalonieri, R., ... & Herrera, F. (2023). Explainable Artificial Intelligence (XAI): What we know and what is left to attain Trustworthy Artificial Intelligence. Information fusion, 99, 101805. sciencedirect.com
15. Alkaraan, F., Elmarzouky, M., Hussainey, K., & Venkatesh, V. G. (2023). Sustainable strategic investment decision-making practices in UK companies: The influence of governance mechanisms on synergy between industry 4.0 and circular economy. Technological Forecasting and Social Change, 187, 122187. sciencedirect.com
16. Al-kfairy, M., Mustafa, D., Kshetri, N., Insiew, M., & Alfandi, O. (2024). Ethical challenges and solutions of generative AI: An interdisciplinary perspective. Informatics. mdpi.com
17. Allioui, H. & Mourdi, Y. (2023). Exploring the full potentials of IoT for better financial growth and stability: A comprehensive survey. Sensors. mdpi.com
18. Almasri, A., El-Kour, T. Y., Silva, L., & Abdulfattah, Y. (2024). Evaluating the Energy Efficiency of Popular US Smartphone Health Care Apps: Comparative Analysis Study Toward Sustainable Health and Nutrition Apps Practices. JMIR Human Factors, 11, e58311. jmir.org
19. Al-Qudah, A. A., Hamdan, A., Al-Okaily, M., & Alhaddad, L. (2023). The impact of green lending on credit risk: Evidence from UAE's banks. Environmental Science and Pollution Research, 30(22), 61381-61393. springer.com

20. Alsagr, N., & Van Hemmen, S. (2021). The impact of financial development and geopolitical risk on renewable energy consumption: evidence from emerging markets. Environmental Science and Pollution Research, 28, 25906-25919. springer.com
21. Al-Shaer, H., Albitar, K., & Liu, J. (2023). CEO power and CSR-linked compensation for corporate environmental responsibility: UK evidence. Review of Quantitative Finance and Accounting, 60(3), 1025-1063. springer.com
22. Alsharif, M. H., Jahid, A., Kelechi, A. H., & Kannadasan, R. (2023). Green IoT: A review and future research directions. Symmetry. mdpi.com
23. Alshukri, T., Seun Ojekemi, O., Öz, T., & Alzubi, A. (2024). The Interplay of Corporate Social Responsibility, Innovation Capability, Organizational Learning, and Sustainable Value Creation: Does Stakeholder Engagement …. Sustainability. mdpi.com
24. AlTaweel, I. R. & Al-Hawary, S. I. (2021). The mediating role of innovation capability on the relationship between strategic agility and organizational performance. Sustainability. mdpi.com
25. Aluchna, M., Roszkowska-Menkes, M., & Kamiński, B. (2023). From talk to action: the effects of the non-financial reporting directive on ESG performance. Meditari accountancy research, 31(7), 1-25. emerald.com
26. Alyahia, M., Azazz, A. M., Fayyad, S., Elshaer, I. A., & Mohammad, A. A. (2024). Greenwashing behavior in hotels industry: The role of green transparency and green authenticity. Sustainability, 16(3), 1050. mdpi.com
27. Anwar, G., & Abdullah, N. N. (2021). The impact of Human resource management practice on Organizational performance. International journal of Engineering, Business and Management (IJEBM), 5. ssrn.com
28. Arbelo, A., Arbelo-Pérez, M., & Pérez-Gómez, P. (2021). Profit efficiency as a measure of performance and frontier models: a resource-based view. BRQ Business Research Quarterly, 24(2), 143-159. sagepub.com
29. Arif, M., Hasan, M., Alawi, S. M., & Naeem, M. A. (2021). COVID-19 and time-frequency connectedness between green and conventional financial markets. Global Finance Journal. nih.gov
30. Arise, O. A., & Muzuva, M. (2024). Green Organizational Culture and Sustainable Development: Nurturing Environmental Responsibility in Businesses. In Waste Management and Life Cycle Assessment for Sustainable Business Practice (pp. 189-216). IGI Global.
31. Arvidsson, S. & Dumay, J. (2022). Corporate ESG reporting quantity, quality and performance: Where to now for environmental policy and practice?. Business strategy and the environment. wiley.com
32. Aschbrenner, K. A., Kruse, G., Gallo, J. J., & Plano Clark, V. L. (2022). Applying mixed methods to pilot feasibility studies to inform intervention trials. Pilot and feasibility studies, 8(1), 217. springer.com
33. Aseinimieyeofori, P. A. (2022). Non-Current Assets Investment and Financial Performance of Listed Insurance Companies in Nigeria. BW Academic Journal. bwjournal.org
34. Authority, P. R. (2021). Climate-related financial risk management and the role of capital requirements. Climate Change Adaptation Report. bankofengland.co.uk
35. Aven, T. & Zio, E. (2021). Globalization and global risk: How risk analysis needs to be enhanced to be effective in confronting current threats. Reliability Engineering & System Safety. sciencedirect.com
36. Awan, U., Bhatti, S. H., Shamim, S., Khan, Z., Akhtar, P., & Balta, M. E. (2022). The role of big data analytics in manufacturing agility and performance: moderation–mediation analysis of organizational

creativity and of the involvement of customers as data analysts. British Journal of Management, 33(3), 1200-1220. uwasa.fi

37. Awan, U., Sroufe, R., & Shahbaz, M. (2021). Industry 4.0 and the circular economy: A literature review and recommendations for future research. Business Strategy and the Environment, 30(4), 2038-2060. researchgate.net

38. Azmat, F., Jain, A., & Michaux, F. (2022). Strengthening impact integrity in investment decision-making for sustainable development. Sustainability Accounting, Management and Policy Journal, 13(1), 55-87.

39. Baah, C., Opoku-Agyeman, D., Acquah, I. S. K., Agyabeng-Mensah, Y., Afum, E., Faibil, D., & Abdoulaye, F. A. M. (2021). Examining the correlations between stakeholder pressures, green production practices, firm reputation, environmental and financial performance: Evidence from manufacturing SMEs. Sustainable Production and Consumption, 27, 100-114. academia.edu

40. Bakry, W., Mallik, G., Nghiem, X. H., Sinha, A., & Vo, X. V. (2023). Is green finance really "green"? Examining the long-run relationship between green finance, renewable energy and environmental performance in developing …. Renewable Energy.

41. Barna, L. E. L., Ionescu, B., & Ionescu-Feleagă, L. (2021). The relationship between the implementation of erp systems and the financial and non-financial reporting of organizations. sustainability. mdpi.com

42. Bashir, M. F., Benjiang, M. A., Hussain, H. I., Shahbaz, M., Koca, K., & Shahzadi, I. (2022). Evaluating environmental commitments to COP21 and the role of economic complexity, renewable energy, financial development, urbanization, and energy innovation: empirical evidence from the RCEP countries. Renewable Energy, 184, 541-550.

43. Battiston, S., Dafermos, Y., & Monasterolo, I. (2021). Climate risks and financial stability. Journal of Financial Stability. ssrn.com

44. Baumüller, J. & Sopp, K. (2021). Double materiality and the shift from non-financial to European sustainability reporting: review, outlook and implications. Journal of Applied Accounting Research. emerald.com

45. Bei, J. & Wang, C. (2023). Renewable energy resources and sustainable development goals: evidence based on green finance, clean energy and environmentally friendly investment. Resources Policy.

46. Bellassen, V., Drut, M., Hilal, M., Bodini, A., Donati, M., De Labarre, M. D., ... & Arfini, F. (2022). The economic, environmental and social performance of European certified food. Ecological economics, 191, 107244. sciencedirect.com

47. Bennett, N. J., Blythe, J., White, C. S., & Campero, C. (2021). Blue growth and blue justice: Ten risks and solutions for the ocean economy. Marine Policy. uea.ac.uk

48. Bertrand-Krajewski, J. L. (2021). Integrated urban stormwater management: Evolution and multidisciplinary perspective. Journal of Hydro-Environment Research. sciencedirect.com

49. Bhandary, R. R., Gallagher, K. S., & Zhang, F. (2021). Climate finance policy in practice: A review of the evidence. Climate Policy. tandfonline.com

50. Bhatnagar, S. & Sharma, D. (2022). Evolution of green finance and its enablers: A bibliometric analysis. Renewable and Sustainable Energy Reviews.

51. Bhatty, K., Kapur, M. H., & Singh, A. (2022). Regulation of Non-state Actors in School Education in India. Paper commissioned for the 2022 Global Education Monitoring Report, South Asia–Non-state actors in education. cprindia.org

52. Bhutta, U. S., Tariq, A., Farrukh, M., Raza, A., & Iqbal, M. K. (2022). Green bonds for sustainable development: Review of literature on development and impact of green bonds. Technological Forecasting and Social Change, 175, 121378.
53. Bibri, S. E., Alexandre, A., Sharifi, A., & Krogstie, J. (2023). Environmentally sustainable smart cities and their converging AI, IoT, and big data technologies and solutions: an integrated approach to an extensive literature …. Energy Informatics. springer.com
54. Bienert, K. N. E. (2023). The relationship between corporate sustainability and corporate culture: identification of the core corporate values that drive sustainability in business.
55. Bilderback, S. (2024). Integrating training for organizational sustainability: the application of Sustainable Development Goals globally. European Journal of Training and Development. researchgate.net
56. Blums, I. & Weigand, H. (2021). Consolidating economic exchange ontologies for corporate reporting standard setting. International Conference on Conceptual Modeling.
57. Blums, I. & Weigand, H. (2023). Consolidating economic exchange ontologies for financial reporting standard setting. Data & Knowledge Engineering. sciencedirect.com
58. Boamah, S. A., Hamadi, H. Y., Havaei, F., Smith, H., & Webb, F. (2022). Striking a balance between work and play: The effects of work–life interference and burnout on faculty turnover intentions and career satisfaction. International journal of environmental research and public health, 19(2), 809. mdpi.com
59. Bodansky, D. & van Asselt, H. (2024). The art and craft of international environmental law.
60. Brauers, H. (2022). Natural gas as a barrier to sustainability transitions? A systematic mapping of the risks and challenges. Energy Research & Social Science. sciencedirect.com
61. Brink, S. M. (2024). Developing illustrative examples for revenue recognition in credit card rewards programmes. Journal of Economic and Financial Sciences. jefjournal.org.za
62. Bruggeman, B., Tondeur, J., Struyven, K., Pynoo, B., Garone, A., & Vanslambrouck, S. (2021). Experts speaking: Crucial teacher attributes for implementing blended learning in higher education. The Internet and higher education, 48, 100772. academia.edu
63. Brumberg, H. L., Karr, C. J., Bole, A., Ahdoot, S., Balk, S. J., Bernstein, A. S., ... & Trasande, L. (2021). Ambient air pollution: health hazards to children. Pediatrics, 147(6).
64. Burckart, W. & Lydenberg, S. (2021). 21st Century Investing: Redirecting Financial Strategies to Drive Systems Change.
65. Burke, J. & Gambhir, A. (2022). Policy incentives for Greenhouse Gas Removal Techniques: the risks of premature inclusion in carbon markets and the need for a multi-pronged policy …. Energy and Climate Change. sciencedirect.com
66. Calandra, D., Lanzalonga, F., & Biancone, P. P. (2024). Exploring IFRS in Islamic finance: a bibliometric and coding analysis of emerging topics and perspectives. International Journal of Islamic and Middle Eastern Finance and Management, 17(4), 711-729.
67. Carungu, J., Di Pietra, R., & Molinari, M. (2021). Mandatory vs voluntary exercise on non-financial reporting: does a normative/coercive isomorphism facilitate an increase in quality?. Meditari Accountancy Research. londonmet.ac.uk
68. Challoumis, C. (2024). THE EVOLUTION OF FINANCIAL SYSTEMS-AI'S ROLE IN RESHAPING MONEY MANAGEMENT. XVI International Scientific Conference. conference-w.com

69. Challoumis, C., & Eriotis, N. (2024). A historical analysis of the banking system and its impact on Greek economy. Edelweiss Applied Science and Technology, 8(6), 1598-1617. researchgate.net

70. Chang, L., Saydaliev, H. B., Meo, M. S., & Mohsin, M. (2022). How renewable energy matter for environmental sustainability: Evidence from top-10 wind energy consumer countries of European Union. Sustainable Energy, Grids and Networks, 31, 100716.

71. Chen, J., Siddik, A. B., Zheng, G. W., Masukujjaman, M., & Bekhzod, S. (2022). The effect of green banking practices on banks' environmental performance and green financing: An empirical study. Energies, 15(4), 1292. mdpi.com

72. Chen, S. & Zhang, H. (2021). Does digital finance promote manufacturing servitization: Micro evidence from China. International Review of Economics & Finance.

73. Chien, F., Ngo, Q. T., Hsu, C. C., Chau, K. Y., & Iram, R. (2021). Assessing the mechanism of barriers towards green finance and public spending in small and medium enterprises from developed countries. Environmental Science and Pollution Research, 28(43), 60495-60510. uni-muenchen.de

74. Chiu, I. H. Y., Lin, L., & Rouch, D. (2022). Law and regulation for sustainable finance. European Business Organization Law Review. springer.com

75. Cho, Y. (2022). ESG and firm performance: Focusing on the environmental strategy. Sustainability. mdpi.com

76. Chopra, S. S., Senadheera, S. S., Dissanayake, P. D., Withana, P. A., Chib, R., Rhee, J. H., & Ok, Y. S. (2024). Navigating the Challenges of Environmental, Social, and Governance (ESG) Reporting: The Path to Broader Sustainable Development. Sustainability, 16(2), 606. mdpi.com

77. Chotchantarakun, K. (2023). Optimizing Sequential Forward Selection on Classification using Genetic Algorithm. Informatica. informatica.si

78. Chueca Vergara, C. & Ferruz Agudo, L. (2021). Fintech and sustainability: do they affect each other?. Sustainability. mdpi.com

79. Cinquini, L. & De Luca, F. (2022). Non-financial disclosure and integrated reporting. researchgate.net

80. Cisco, G. & Gatto, A. (2021). Climate justice in an intergenerational sustainability framework: A stochastic OLG model. Economies. mdpi.com

81. Coleman, P. T., Fisher, J., Fry, D. P., Liebovitch, L. S., Chen-Carrel, A., & Souillac, G. (2021). How to live in peace? Mapping the science of sustaining peace: A progress report. American Psychologist, 76(7), 1113. columbia.edu

82. Coronado, E., Kiyokawa, T., Ricardez, G. A. G., Ramirez-Alpizar, I. G., Venture, G., & Yamanobe, N. (2022). Evaluating quality in human-robot interaction: A systematic search and classification of performance and human-centered factors, measures and metrics towards an industry 5.0. Journal of Manufacturing Systems, 63, 392-410.

83. Cui, Z. & Wang, F. (2023). The spatiotemporal dynamic and spatial spillover effect of green finance efficiency in China: analysis based on super-SBM model and spatial Durbin model. Environmental Science and Pollution Research.

84. Cunha, F. A. F. D. S., Meira, E., & Orsato, R. J. (2021). Sustainable finance and investment: Review and research agenda. Business Strategy and the Environment, 30(8), 3821-3838. researchgate.net

85. Dalia, S. & Vitaliy, K. (2021). Green finance and the economic threats during COVID-19 pandemic. Terra economicus. cyberleninka.ru

86. Daszyńska-Żygadło, K., Jajuga, K., & Zabawa, J. (2021). Bank as a Stakeholder in the Financing of Renewable Energy Sources. Recommendations and Policy Implications for Poland. Energies. mdpi.com
87. Davies, L. & Bellington, S. (2024). Boosting long-term factuality in large language model with real-world entity queries. researchsquare.com
88. Deb, B. C., Rahman, M. M., & Haseeb, M. (2024). Unveiling the impact on corporate social responsibility through green tax and green financing: a PLS-SEM approach. Environmental Science and Pollution Research, 31(1), 1543-1561.
89. Debrah, C., Chan, A. P. C., & Darko, A. (2022). Green finance gap in green buildings: A scoping review and future research needs. Building and Environment. polyu.edu.hk
90. Debrah, C., Darko, A., & Chan, A. P. C. (2023). A bibliometric-qualitative literature review of green finance gap and future research directions. Climate and Development. polyu.edu.hk
91. Demekas, D. & Grippa, P. (2021). Financial regulation, climate change, and the transition to a low-carbon economy: A survey of the issues. ssrn.com
92. Desalegn, G. & Tangl, A. (2022). Enhancing green finance for inclusive green growth: A systematic approach. Sustainability. mdpi.com
93. Dhar, B. K., Sarkar, S. M., & Ayittey, F. K. (2022). Impact of social responsibility disclosure between implementation of green accounting and sustainable development: A study on heavily polluting companies in Bangladesh. Corporate Social Responsibility and Environmental Management, 29(1), 71-78. ssrn.com
94. Di Marco, R., Dong, T., Malatincová, R., Reuter, M., & Strömsten, T. (2023). Symbol or substance? Scrutinizing the 'risk transparency premise'in marketized sustainable finance: The case of TCFD reporting. Business Strategy and the Environment, 32(6), 3027-3052.
95. Di Vaio, A., Varriale, L., Di Gregorio, A., & Adomako, S. (2022). Corporate social performance and non‐financial reporting in the cruise industry: Paving the way towards UN Agenda 2030. Corporate Social Responsibility and Environmental Management, 29(6), 1931-1953. wiley.com
96. Diallo, A. T. (2021). A Comparatıve Analysıs Between The Turkısh Fınancıal Reportıng Standard For Large and Medıum-Sızed Entıtıes and The Ohada Accountıng System. sakarya.edu.tr
97. Dikau, S. & Volz, U. (2021). Central bank mandates, sustainability objectives and the promotion of green finance. Ecological Economics. sciencedirect.com
98. Dimmelmeier, A. (2023). Sustainable finance as a contested concept: tracing the evolution of five frames between 1998 and 2018. Journal of Sustainable Finance & Investment. osf.io
99. Dmuchowski, P., Dmuchowski, W., Baczewska-Dąbrowska, A. H., & Gworek, B. (2023). Environmental, social, and governance (ESG) model; impacts and sustainable investment–Global trends and Poland's perspective. Journal of Environmental Management, 329, 117023.
100. Do, H., Budhwar, P., Shipton, H., Nguyen, H. D., & Nguyen, B. (2022). Building organizational resilience, innovation through resource-based management initiatives, organizational learning and environmental dynamism. Journal of business research, 141, 808-821. ntu.ac.uk
101. Dong, S., Xu, L., & McIver, R. (2021). China's financial sector sustainability and "green finance" disclosures. Sustainability Accounting, Management and Policy Journal, 12(2), 353-384. mmust.ac.ke
102. D'Orazio, P. & Dirks, M. W. (2022). Exploring the effects of climate-related financial policies on carbon emissions in G20 countries: a panel quantile regression approach. Environmental Science and Pollution Research. springer.com

103. D'Orazio, P. & Thole, S. (2022). Climate-related financial policy index: a composite index to compare the engagement in green financial policymaking at the global level. Ecological Indicators. sciencedirect.com
104. Dröge, S., Martin, D. A., Andriafanomezantsoa, R., Burivalova, Z., Fulgence, T. R., Osen, K., ... & Kreft, H. (2021). Listening to a changing landscape: Acoustic indices reflect bird species richness and plot-scale vegetation structure across different land-use types in north-eastern Madagascar. Ecological Indicators, 120, 106929. sciencedirect.com
105. Ebrahim, A., & Abdelfattah, T. (2021). The substance and form of Islamic Finance instruments: an accounting perspective. Journal of Islamic Accounting and Business Research, 12(6), 872-886. port.ac.uk
106. Ecer, F. & Pamucar, D. (2022). A novel LOPCOW‐DOBI multi‐criteria sustainability performance assessment methodology: An application in developing country banking sector. Omega.
107. Edeling, A., Srinivasan, S., & Hanssens, D. M. (2021). The marketing–finance interface: A new integrative review of metrics, methods, and findings and an agenda for future research. International Journal of Research in Marketing, 38(4), 857-876. nih.gov
108. Elgarahy, A. M., Maged, A., Eloffy, M. G., Zahran, M., Kharbish, S., Elwakeel, K. Z., & Bhatnagar, A. (2023). Geopolymers as sustainable eco-friendly materials: Classification, synthesis routes, and applications in wastewater treatment. Separation and Purification Technology, 124631. sciencedirect.com
109. Farghali, M., Osman, A. I., Mohamed, I. M., Chen, Z., Chen, L., Ihara, I., ... & Rooney, D. W. (2023). Strategies to save energy in the context of the energy crisis: a review. Environmental Chemistry Letters, 21(4), 2003-2039. springer.com
110. Favot, M., Vesnic, L., Priore, R., Bincoletto, A., & Morea, F. (2023). Green patents and green codes: How different methodologies lead to different results. Resources, Conservation & Recycling Advances, 18, 200132. sciencedirect.com
111. Finley, A., He, W., Huang, H., & Hon, C. (2024). Analyzing the Effectiveness of Carbon Pricing Instruments in Reducing Carbon Emissions in Major Asian Economies. Sustainability. mdpi.com
112. Fobbe, L. & Hilletofth, P. (2021). The role of stakeholder interaction in sustainable business models. A systematic literature review. Journal of Cleaner Production. sciencedirect.com
113. Förster, J., Beck, S., Borchers, M., Gawel, E., Korte, K., Markus, T., ... & Thrän, D. (2022). Framework for assessing the feasibility of carbon dioxide removal options within the national context of Germany. Frontiers in Climate, 4, 758628. frontiersin.org
114. Freschet, G. T., Roumet, C., Comas, L. H., Weemstra, M., Bengough, A. G., Rewald, B., ... & Stokes, A. (2021). Root traits as drivers of plant and ecosystem functioning: current understanding, pitfalls and future research needs. New Phytologist, 232(3), 1123-1158. wiley.com
115. Froehlich, M., Vega Vermehren, J. A., Alt, F., & Schmidt, A. (2022, October). Implementation and Evaluation of a Point-Of-Sale Payment System Using Bitcoin Lightning. In Nordic Human-Computer Interaction Conference (pp. 1-12). florian-alt.org
116. Fu, J. & Mishra, M. (2022). Fintech in the time of COVID− 19: Technological adoption during crises. Journal of Financial Intermediation. sciencedirect.com
117. Gao, Z., Li, L., & Hao, Y. (2023). Dynamic evolution and driving forces of carbon emission efficiency in China: New evidence based on the RBM-ML model. Gondwana Research.
118. Garanina, T., Ranta, M., & Dumay, J. (2022). Blockchain in accounting research: current trends and emerging topics. Accounting, Auditing & Accountability Journal, 35(7), 1507-1533. emerald.com

119. Genovese, M., Schlüter, A., Scionti, E., Piraino, F., Corigliano, O., & Fragiacomo, P. (2023). Power-to-hydrogen and hydrogen-to-X energy systems for the industry of the future in Europe. International Journal of Hydrogen Energy, 48(44), 16545-16568. sciencedirect.com

120. George, G. & Schillebeeckx, S. J. D. (2022). Digital transformation, sustainability, and purpose in the multinational enterprise. Journal of World Business. sciencedirect.com

121. Ghalehkhondabi, I., Maihami, R., Ahmadi, E., & Fallahtafti, A. (2024). Saving money and the environment: studying pricing problem in sustainable third-party logistics with green and marketing initiatives using game theory. International Journal of Systems Science: Operations & Logistics, 11(1), 2314543.

122. Ghazal, T. M., Hasan, M. K., Alshurideh, M. T., Alzoubi, H. M., Ahmad, M., Akbar, S. S., ... & Akour, I. A. (2021). IoT for smart cities: Machine learning approaches in smart healthcare—A review. Future Internet, 13(8), 218. mdpi.com

123. Gilchrist, D., Yu, J., & Zhong, R. (2021). The limits of green finance: A survey of literature in the context of green bonds and green loans. Sustainability. mdpi.com

124. Glavič, P. (2021). Evolution and current challenges of sustainable consumption and production. Sustainability. mdpi.com

125. González, C. I. & Núñez, S. (2021). Markets, financial institutions and central banks in the face of climate change: challenges and opportunities. Banco de España Occasional Paper. ssrn.com

126. Gorjian, S., Sharon, H., Ebadi, H., Kant, K., Scavo, F. B., & Tina, G. M. (2021). Recent technical advancements, economics and environmental impacts of floating photovoltaic solar energy conversion systems. Journal of Cleaner Production, 278, 124285.

127. Grassmann, M. (2021). The relationship between corporate social responsibility expenditures and firm value: The moderating role of integrated reporting. Journal of Cleaner Production.

128. Gu, B., Chen, F., & Zhang, K. (2021). … finance in promoting industrial transformation and upgrading efficiency in China: analysis from the perspective of government regulation and public environmental …. Environmental Science and Pollution Research.

129. Guo, B., Guo, Y., Nima, Q., Feng, Y., Wang, Z., Lu, R., ... & Zhao, X. (2022). Exposure to air pollution is associated with an increased risk of metabolic dysfunction-associated fatty liver disease. Journal of hepatology, 76(3), 518-525. sciencedirect.com

130. Guo, Z. & El Yazghi, Z. (2024). Organizational Culture and Corporate Sustainability Strategy: An Explorative Analysis of Drivers and Barriers. diva-portal.org

131. Ha, N. M., Nguyen, P. A., Luan, N. V., & Tam, N. M. (2024). Impact of green innovation on environmental performance and financial performance. Environment, Development and Sustainability, 26(7), 17083-17104.

132. Hakobyan, A., Tshughuryan, A., & Martirosyan, G. (2023). The Integrated Reporting Philosophy in Business Strategy. Wisdom. cyberleninka.ru

133. Hale, T., Smith, S. M., Black, R., Cullen, K., Fay, B., Lang, J., & Mahmood, S. (2022). Assessing the rapidly-emerging landscape of net zero targets. Climate Policy, 22(1), 18-29. tandfonline.com

134. Hao, N. S., Dragomir, V. D., & Radu, O. M. (2023). Effects on corporate stakeholders and limitations of the implementation of the Non-Financial Reporting Directive (2014/95/EU). Accounting and Management Information Systems, 22(4), 609-632. researchgate.net

135. Haram, M. H. S. M., Lee, J. W., Ramasamy, G., Ngu, E. E., Thiagarajah, S. P., & Lee, Y. H. (2021). Feasibility of utilising second life EV batteries: Applications, lifespan, economics, environmental impact, assessment, and challenges. Alexandria Engineering Journal, 60(5), 4517-4536. sciencedirect.com

136. Hariram, N. P., Mekha, K. B., Suganthan, V., & Sudhakar, K. (2023). Sustainalism: An integrated socio-economic-environmental model to address sustainable development and sustainability. Sustainability. mdpi.com

137. Hase, V., Mahl, D., Schäfer, M. S., & Keller, T. R. (2021). Climate change in news media across the globe: An automated analysis of issue attention and themes in climate change coverage in 10 countries (2006 …. Global Environmental Change. sciencedirect.com

138. Hass, J. L., Fixler, D., Wentland, K., & Wentland, S. (2021). Accounting for Climate Change and Environmental Activity: Implementation Challenges in the US and How Harmonization of ESG Reporting Could Help Create …. fourthestatepolicy.com

139. He, P., Almasifar, N., Mehbodniya, A., Javaheri, D., & Webber, J. L. (2022). Towards green smart cities using Internet of Things and optimization algorithms: A systematic and bibliometric review. Sustainable Computing: Informatics and Systems, 36, 100822.

140. Head, B. W. (2022). Wicked problems in public policy: Understanding and responding to complex challenges. oapen.org

141. Health Organization, W. (2021). Reflecting on TrackFin 2012-2020: key results, lessons learned and the way forward.

142. Hecht, C. (2024). Derecognition Diplomacy: a Study of Morocco's Foreign Policy on the Western Sahara. The Hague Journal of Diplomacy.

143. Hofstad, H., Sørensen, E., Torfing, J., & Vedeld, T. (2023). Leading co-creation for the green shift. Public Money & Management, 43(4), 357-366. oslomet.no

144. Hong, Z. & Xiao, K. (2024). Digital economy structuring for sustainable development: the role of blockchain and artificial intelligence in improving supply chain and reducing negative …. Scientific Reports. nature.com

145. Hossain, M. R., Rao, A., Sharma, G. D., Dev, D., & Kharbanda, A. (2024). Empowering energy transition: Green innovation, digital finance, and the path to sustainable prosperity through green finance initiatives. Energy Economics. sciencedirect.com

146. Hou, G. & Shi, G. (2024). Green finance and innovative cities: Dual-pilot policies and collaborative green innovation. International Review of Financial Analysis.

147. Howard-Grenville, J., & Gapp, T. (2022). Organizational culture for sustainability. In Handbook on the Business of Sustainability (pp. 138-151). Edward Elgar Publishing.

148. Hsu, C. C., Quang-Thanh, N., Chien, F., Li, L., & Mohsin, M. (2021). Evaluating green innovation and performance of financial development: mediating concerns of environmental regulation. Environmental Science and Pollution Research, 28(40), 57386-57397. uni-muenchen.de

149. Huang, D. Z. X. (2022). Environmental, social and governance factors and assessing firm value: Valuation, signalling and stakeholder perspectives. Accounting & Finance. uq.edu.au

150. Huang, S. Z. (2022). Do green financing and industrial structure matter for green economic recovery? Fresh empirical insights from Vietnam. Economic Analysis and Policy.

151. Huang, Y., Chen, C., Lei, L., & Zhang, Y. (2022). Impacts of green finance on green innovation: a spatial and nonlinear perspective. Journal of Cleaner Production.

152. Hussain, S., & Reza, M. (2023). Environmental damage and global health: understanding the impacts and proposing mitigation strategies. Journal of Big-Data Analytics and Cloud Computing, 8(2), 1-21. questsquare.org
153. Hvam, C. & Hveem, M. (2023). Accounting for diverse greenhouse gases in the environmental balance sheet: How to account for CO2 and CH4 using different emission metrics. nhh.no
154. Igbinenikaro, E. & Adewusi, A. O. (2024). Financial law: policy frameworks for regulating fintech innovations: ensuring consumer protection while fostering innovation. Finance & Accounting Research Journal. fepbl.com
155. Ionescu, L. (). Corporate environmental performance, climate change mitigation, and green innovation behavior in sustainable finance. Economics.
156. Ionescu, L. (2021). Leveraging green finance for low-carbon energy, sustainable economic development, and climate change mitigation during the COVID-19 pandemic. Review of Contemporary Philosophy.
157. Irfan, M., Razzaq, A., Sharif, A., & Yang, X. (2022). Influence mechanism between green finance and green innovation: exploring regional policy intervention effects in China. Technological Forecasting and Social Change, 182, 121882.
158. Jaganjac, B., Hansen, K. W., Lunde, H., & Hunnes, J. A. (2024). The role of organizational culture and structure in implementing sustainability initiatives. Business Ethics, the Environment & Responsibility. wiley.com
159. Jamal, T., Zahid, M., Martins, J. M., Mata, M. N., Rahman, H. U., & Mata, P. N. (2021). Perceived green human resource management practices and corporate sustainability: Multigroup analysis and major industries perspectives. Sustainability, 13(6), 3045. mdpi.com
160. Janković, S., & Roeben, V. (2022). Validity of Contested Title to Territory in Frozen Conflict Zones: The Case of Nagorno Karabakh with Particular Reference to the 2020 War. Chinese (Taiwan) Yearbook of International Law and Affairs. ssrn.com
161. Jejeniwa, T. O., Mhlongo, N. Z., & Jejeniwa, T. O. (2024). A comprehensive review of the impact of artificial intelligence on modern accounting practices and financial reporting. Computer Science & IT Research Journal, 5(4), 1031-1047. fepbl.com
162. Jejeniwa, T. O., Mhlongo, N. Z., & Jejeniwa, T. O. (2024). The role of ethical practices in accounting: A review of corporate governance and compliance trends. Finance & Accounting Research Journal, 6(4), 707-720. fepbl.com
163. Jiakui, C., Abbas, J., Najam, H., Liu, J., & Abbas, J. (2023). Green technological innovation, green finance, and financial development and their role in green total factor productivity: Empirical insights from China. Journal of Cleaner Production.
164. Jimmy, F. (2024). Enhancing data security in financial institutions with blockchain technology. Journal of Artificial Intelligence General science (JAIGS) ISSN: 3006-4023, 5(1), 424-437. boulibrary.com
165. Jin, Y., Gao, X., & Wang, M. (2021). The financing efficiency of listed energy conservation and environmental protection firms: evidence and implications for green finance in China. Energy Policy.
166. Judkowiak, A. (2021). Disclosure practices of information in the field of financial instruments: Evidence from Polish companies listed in the Warsaw stock exchange. um.edu.mt
167. Kahupi, I., Hull, C. E., Okorie, O., & Millette, S. (2021). Building competitive advantage with sustainable products–A case study perspective of stakeholders. Journal of Cleaner Production. exeter.ac.uk

168. Kamau, C. G., Asser, J. H., Ibua, M. P., & Otiende, I. O. (2023). User Reviews, Ratings and Adoption of accounting mobile apps in Kenya. researchgate.net
169. Karmarkar, U. (2021). Service Industrialization, Convergence, and Digital Transformation–II. Management and Business Review. sagepub.com
170. Karwowski, M., & Raulinajtys‐Grzybek, M. (2021). The application of corporate social responsibility (CSR) actions for mitigation of environmental, social, corporate governance (ESG) and reputational risk in integrated reports. Corporate Social Responsibility and Environmental Management, 28(4), 1270-1284.
171. Kasdan, M., Kuhl, L., & Kurukulasuriya, P. (2021). The evolution of transformational change in multilateral funds dedicated to financing adaptation to climate change. Climate and Development. laurakuhlphd.com
172. Katoue, M. G., Cerda, A. A., García, L. Y., & Jakovljevic, M. (2022). Healthcare system development in the Middle East and North Africa region: challenges, endeavors and prospective opportunities. Frontiers in public health, 10, 1045739. frontiersin.org
173. Khalfaoui, R., Jabeur, S. B., & Dogan, B. (2022). The spillover effects and connectedness among green commodities, Bitcoins, and US stock markets: Evidence from the quantile VAR network. Journal of environmental management.
174. Khan, H. Z., Bose, S., Mollik, A. T., & Harun, H. (2021). "Green washing" or "authentic effort"? An empirical investigation of the quality of sustainability reporting by banks. Accounting, Auditing & Accountability Journal, 34(2), 338-369. ssrn.com
175. Khan, M. A., Riaz, H., Ahmed, M., & Saeed, A. (2022). Does green finance really deliver what is expected? An empirical perspective. Borsa Istanbul Review. sciencedirect.com
176. Khan, P. A., Johl, S. K., & Johl, S. K. (2021). Does adoption of ISO 56002‐2019 and green innovation reporting enhance the firm sustainable development goal performance? An emerging paradigm. Business Strategy and the Environment, 30(7), 2922-2936. researchgate.net
177. Kheireddine, H., Lacombe, I., & Jarboui, A. (2024). The moderating effect of environmental performance on the relationship between sustainability assurance quality and firm value: a simultaneous equations approach. Benchmarking: An International Journal, 31(10), 3690-3722. researchgate.net
178. Khorram-Manesh, A., Goniewicz, K., & Burkle Jr, F. M. (2024). Unleashing the global potential of public health: a framework for future pandemic response. Journal of Infection and Public Health, 17(1), 82-95. sciencedirect.com
179. Klaaßen, L. & Stoll, C. (2021). Harmonizing corporate carbon footprints. Nature communications. nature.com
180. Komarnicka, A. & Komarnicki, M. (2022). Challenges in the EU banking sector as exemplified by Poland in view of legislative changes related to climate crisis prevention. Energies. mdpi.com
181. Kong, T., Sun, R., Sun, G., & Song, Y. (2022). Effects of digital finance on green innovation considering information asymmetry: An empirical study based on Chinese listed firms. Emerging Markets Finance and Trade, 58(15), 4399-4411.
182. Kougias, I., Taylor, N., Kakoulaki, G., & Jäger-Waldau, A. (2021). The role of photovoltaics for the European Green Deal and the recovery plan. Renewable and Sustainable Energy Reviews, 144, 111017. sciencedirect.com

183. Kroon, N., do Céu Alves, M., & Martins, I. (2021). The impacts of emerging technologies on accountants' role and skills: Connecting to open innovation—a systematic literature review. Journal of Open Innovation: Technology, Market, and Complexity, 7(3), 163. sciencedirect.com
184. Krueger, P., Sautner, Z., Tang, D. Y., & Zhong, R. (2024). The effects of mandatory ESG disclosure around the world. Journal of Accounting Research, 62(5), 1795-1847. wiley.com
185. Kumar, L., Nadeem, F., Sloan, M., Restle-Steinert, J., Deitch, M. J., Ali Naqvi, S., ... & Sassanelli, C. (2022). Fostering green finance for sustainable development: A focus on textile and leather small medium enterprises in Pakistan. Sustainability, 14(19), 11908. mdpi.com
186. Kumar, S. (2022). A quest for sustainium (sustainability Premium): review of sustainable bonds. Academy of Accounting and Financial Studies Journal. researchgate.net
187. Kumar, S., Sharma, D., Rao, S., Lim, W. M., & Mangla, S. K. (2022). Past, present, and future of sustainable finance: insights from big data analytics through machine learning of scholarly research. Annals of Operations Research, 1-44. springer.com
188. Kwon, K., Lee, H. B., Kim, N., Park, S., & Joshua, S. R. (2024). Integrated battery and hydrogen energy storage for enhanced grid power savings and green hydrogen utilization. Applied Sciences. mdpi.com
189. Lai, A. & Stacchezzini, R. (2021). Organisational and professional challenges amid the evolution of sustainability reporting: a theoretical framework and an agenda for future research. Meditari Accountancy Research. emerald.com
190. Lam, L., Nguyen, P., Le, N., & Tran, K. (2021). The relation among organizational culture, knowledge management, and innovation capability: Its implication for open innovation. Journal of Open Innovation: Technology, Market, and Complexity, 7(1), 66. sciencedirect.com
191. Lashitew, A. A. (2021). Corporate uptake of the Sustainable Development Goals: Mere greenwashing or an advent of institutional change?. Journal of International Business Policy. ssrn.com
192. Latilo, A., Uzougbo, N. S., MC, U., & Oduro, P. (2024). Strategies for Corporate Compliance and Litigation avoidance in multinational enterprise. World Journal of Advanced Science and Technology, 6(01), 073-087. researchgate.net
193. Lazaro, L. L. B., Grangeia, C. S., Santos, L., & Giatti, L. L. (2023). What is green finance, after all?–Exploring definitions and their implications under the Brazilian biofuel policy (RenovaBio). Journal of Climate Finance.
194. Lee, C. C. & Lee, C. C. (2022). How does green finance affect green total factor productivity? Evidence from China. Energy economics.
195. Lee, C. C., Wang, F., & Lou, R. (2022). Digital financial inclusion and carbon neutrality: Evidence from non-linear analysis. Resources Policy. ssrn.com
196. Lennox, C. & Wu, J. S. (2022). A review of China-related accounting research in the past 25 years. Journal of Accounting and Economics. sciencedirect.com
197. Leonardsson, H., Kronsell, A., Andersson, E., Burman, A., Blanes, R., Da Costa, K., ... & Öjendal, J. (2021). Achieving peaceful climate change adaptation through transformative governance. World Development, 147, 105656. sciencedirect.com
198. Li, C. Z. & Umair, M. (2023). Does green finance development goals affects renewable energy in China. Renewable Energy.
199. Li, F., Larimo, J., & Leonidou, L. C. (2023). Social media in marketing research: Theoretical bases, methodological aspects, and thematic focus. Psychology & Marketing. wiley.com

200. Li, L. (2021). Integrating climate change impact in new building design process: A review of building life cycle carbon emission assessment methodologies. Cleaner Engineering and Technology. sciencedirect.com
201. Li, T. T., Wang, K., Sueyoshi, T., & Wang, D. D. (2021). ESG: Research progress and future prospects. Sustainability. mdpi.com
202. Lian, Y., Gao, J., & Ye, T. (2022). How does green credit affect the financial performance of commercial banks?—evidence from China. Journal of Cleaner Production.
203. Liang, C., Ma, X., & Liao, X. (2024). Unveiling Investor Motivation and Trust in Impact Investing: Evidence from Global Green Bond Issuances. Journal of Business Ethics.
204. Lin, C. Y., Chau, K. Y., Tran, T. K., Sadiq, M., Van, L., & Phan, T. T. H. (2022). Development of renewable energy resources by green finance, volatility and risk: empirical evidence from China. Renewable Energy.
205. Lin, L., Yuan, Y., Huang, Z., & Wang, Y. (2024). YAP Signaling in Glia: Pivotal Roles in Neurological Development, Regeneration and Diseases. Neuroscience Bulletin. springer.com
206. Liu, F. H., & Lai, K. P. (2021). Ecologies of green finance: Green sukuk and development of green Islamic finance in Malaysia. Environment and Planning A: Economy and Space, 53(8), 1896-1914. sagepub.com
207. Lombardi, R. & Secundo, G. (2021). The digital transformation of corporate reporting–a systematic literature review and avenues for future research. Meditari Accountancy Research.
208. Lu, J., Liang, M., Zhang, C., Rong, D., Guan, H., Mazeikaite, K., & Streimikis, J. (2021). Assessment of corporate social responsibility by addressing sustainable development goals. Corporate Social Responsibility and Environmental Management, 28(2), 686-703.
209. Lu, Q., Farooq, M. U., Ma, X., & Iram, R. (2022). Assessing the combining role of public-private investment as a green finance and renewable energy in carbon neutrality target. Renewable Energy.
210. Lukova, O. (2021). Identification of financial instruments as an object of accounting. Economics & Education. baltijapublishing.lv
211. Lv, C., Bian, B., Lee, C. C., & He, Z. (2021). Regional gap and the trend of green finance development in China. Energy Economics.
212. Lv, C., Shao, C., & Lee, C. C. (2021). Green technology innovation and financial development: do environmental regulation and innovation output matter?. Energy Economics.
213. Macchiavello, E., & Siri, M. (2022). Sustainable finance and fintech: Can technology contribute to achieving environmental goals? A preliminary assessment of 'green fintech'and 'sustainable digital finance'. European Company and Financial Law Review, 19(1), 128-174. ssrn.com
214. Machová, R., Ambrus, R., Zsigmond, T., & Bakó, F. (2022). The impact of green marketing on consumer behavior in the market of palm oil products. Sustainability. mdpi.com
215. Madaleno, M., Dogan, E., & Taskin, D. (2022). A step forward on sustainability: The nexus of environmental responsibility, green technology, clean energy and green finance. Energy Economics.
216. Marion, T. J., & Fixson, S. K. (2021). The transformation of the innovation process: How digital tools are changing work, collaboration, and organizations in new product development. Journal of Product Innovation Management, 38(1), 192-215. sebastianfixson.com
217. Matuszewska-Janica, A., Żebrowska-Suchodolska, D., Ala-Karvia, U., & Hozer-Koćmiel, M. (2021). Changes in electricity production from renewable energy sources in the European Union countries in 2005–2019. Energies, 14(19), 6276. mdpi.com

218. Mayer, C. (2021). The future of the corporation and the economics of purpose. Journal of Management Studies. ssrn.com

219. McIntosh, T., Susnjak, T., Liu, T., Xu, D., Watters, P., Liu, D., ... & Halgamuge, M. (2024). Ransomware reloaded: Re-examining its trend, research and mitigation in the era of data exfiltration. ACM Computing Surveys, 57(1), 1-40. acm.org

220. Mio, C., Costantini, A., & Panfilo, S. (2022). Performance measurement tools for sustainable business: A systematic literature review on the sustainability balanced scorecard use. … and environmental …. wiley.com

221. Moch, E. (2024). The Economic and Geopolitical Significance of the Brics Nations: A Comparative Analysis of Their Global Influence in the 21st Century. East African Journal of Business and Economics. eanso.org

222. Mogaji, E., Adeola, O., Hinson, R. E., Nguyen, N. P., Nwoba, A. C., & Soetan, T. O. (2021). Marketing bank services to financially vulnerable customers: evidence from an emerging economy. International Journal of Bank Marketing, 39(3), 402-428. researchgate.net

223. Moo-Ung, S. O. N., & CHA, S. S. (2024). The Influence of Service Scape in Franchise Fast Food Restaurants on the Attitudes and Revisit Intentions of the MZ Generation. The Korean Journal of Food & Health Convergence, 10(4), 1-8. koreascience.kr

224. Morgan, Y. C., Fok, L., & Zee, S. (2024). Examining the impact of environmental and organizational priorities on sustainability performance in service industries. International Journal of Productivity and Performance Management, 73(8), 2480-2507.

225. Mughal, A. A. (2022). Building and securing the modern security operations center (soc). International Journal of Business Intelligence and Big Data Analytics, 5(1), 1-15. tensorgate.org

226. Munday, M. W. (2021). Taiwan and the Recognition Decisions of Developing States. tdl.org

227. Murinde, V., Rizopoulos, E., & Zachariadis, M. (2022). The impact of the FinTech revolution on the future of banking: Opportunities and risks. International review of financial analysis, 81, 102103. sciencedirect.com

228. Murthy, V. & Ramakrishna, S. (2022). A review on global E-waste management: urban mining towards a sustainable future and circular economy. Sustainability. mdpi.com

229. Musteika, T. (2021). Factors and development barriers of born-global companies in the context of high–tech firms. ktu.edu

230. Navickas, V., Kontautiene, R., Stravinskienė, J., & Bilan, Y. (2021). Paradigm shift in the concept of corporate social responsibility: COVID-19. Green finance. ktu.edu

231. Nedopil, C. (2023). Integrating biodiversity into financial decision‐making: Challenges and four principles. Business Strategy and the Environment. researchgate.net

232. Nembe, J. K., Atadoga, J. O., Adelakun, B. O., Odeyemi, O., & Oguejiofor, B. B. (2024). Legal implications of blockchain technology for tax compliance and financial regulation. Finance & Accounting Research Journal, 6(2), 262-270. fepbl.com

233. Ng, A. W., Nathwani, J., Fu, J., & Zhou, H. (2021). Green financing for global energy sustainability: prospecting transformational adaptation beyond Industry 4.0. Sustainability: Science, Practice and Policy, 17(1), 377-390. tandfonline.com

234. Nguyen, T. T., Grote, U., Neubacher, F., Do, M. H., & Paudel, G. P. (2023). Security risks from climate change and environmental degradation: Implications for sustainable land use transformation in the Global South. Current Opinion in Environmental Sustainability, 63, 101322. sciencedirect.com

235. Ning, Y., Cherian, J., Sial, M. S., Álvarez-Otero, S., Comite, U., & Zia-Ud-Din, M. (2023). Green bond as a new determinant of sustainable green financing, energy efficiency investment, and economic growth: a global perspective. Environmental Science and Pollution Research, 30(22), 61324-61339. springer.com
236. Odonkor, B., Kaggwa, S., Uwaoma, P. U., Hassan, A. O., & Farayola, O. A. (2024). Integrating Artificial intelligence in accounting: a quantitative economic perspective for the future of US financial markets. Finance & Accounting Research Journal, 6(1), 56-78. fepbl.com
237. Ofremu, G. O., Raimi, B. Y., Yusuf, S. O., Dziwornu, B. A., Nnabuife, S. G., Eze, A. M., & Nnajiofor, C. A. (2024). Exploring the Relationship between Climate Change, Air Pollutants and Human Health: Impacts, Adaptation, and Mitigation Strategies. Green Energy and Resources, 100074. sciencedirect.com
238. Oladeinde, M., Okeleke, E. C., Adaramodu, O. R., Fakeyede, O. G., & Farayola, O. A. (2023). Communicating IT audit findings: strategies for effective stakeholder engagement. Computer Science & IT Research Journal, 4(2), 126-139. fepbl.com
239. Olmos-Vega, F. M., Stalmeijer, R. E., Varpio, L., & Kahlke, R. (2023). A practical guide to reflexivity in qualitative research: AMEE Guide No. 149. Medical teacher, 45(3), 241-251. tandfonline.com
240. Olorunyomi, T. D., Okeke, I. C., Ejike, O. G., & Adeleke, A. G. (2024). Using Fintech innovations for predictive financial modeling in multi-cloud environments. Computer Science & IT Research Journal, 5(10), 2357-2370. researchgate.net
241. Olorunyomi, T. D., Sanyaolu, T. O., Adeleke, A. G., & Okeke, I. C. (2024). Analyzing financial analysts' role in business optimization and advanced data analytics. International Journal of Frontiers in Science and Technology Research, 7(2), 29-38. researchgate.net
242. Opazo-Basáez, M., Monroy-Osorio, J. C., & Marić, J. (2024). Evaluating the effect of green technological innovations on organizational and environmental performance: A treble innovation approach. Technovation.
243. Opferkuch, K., Caeiro, S., Salomone, R., & Ramos, T. B. (2021). Circular economy in corporate sustainability reporting: A review of organisational approaches. Business Strategy and the Environment, 30(8), 4015-4036. wiley.com
244. Osaba, E., Del Ser, J., Martinez, A. D., & Hussain, A. (2022). Evolutionary multitask optimization: a methodological overview, challenges, and future research directions. Cognitive Computation. springer.com
245. Ozili, P. K. (2022). Green finance research around the world: a review of literature. International Journal of Green Economics. ssrn.com
246. Paradise, J. F. (2022). The role of green digital finance in achieving sustainable development goals in China's belt and road initiative. In Green digital finance and sustainable development goals (pp. 167-185). Singapore: Springer Nature Singapore.
247. Parini, P., Frikke-Schmidt, R., Tselepis, A. D., Moulin, P., von Eckardstein, A., Binder, C. J., ... & Tokgözoğlu, L. (2021). Taking action: European Atherosclerosis Society targets the United Nations Sustainable Development Goals 2030 agenda to fight atherosclerotic cardiovascular disease in Europe. Atherosclerosis, 322, 77-81. academia.edu

248. Park, S. R. & Jang, J. Y. (2021). The impact of ESG management on investment decision: Institutional investors' perceptions of country-specific ESG criteria. International Journal of Financial Studies. mdpi.com
249. Patel, P., & Jose, D. (2024). Green Tax Incentives and Their Accounting Implications: The Rise of Sustainable Finance. Journal of Artificial Intelligence Research and Applications, 4(1), 627-648. aimlstudies.co.uk
250. Patra, S. P., Wankhede, V. A., & Agrawal, R. (2024). Circular economy practices in supply chain finance: a state-of-the-art review. Benchmarking: An International Journal, 31(7), 2197-2216.
251. Paul, C., Bartkowski, B., Dönmez, C., Don, A., Mayer, S., Steffens, M., ... & Helming, K. (2023). Carbon farming: are soil carbon certificates a suitable tool for climate change mitigation?. Journal of Environmental Management, 330, 117142. sciencedirect.com
252. Petcu, M. A., Sobolevschi-David, M. I., & Curea, S. C. (2024). Integrating digital technologies in sustainability accounting and reporting: Perceptions of professional cloud computing users. Electronics. mdpi.com
253. Pham, D. C., Do, T. N. A., Doan, T. N., Nguyen, T. X. H., & Pham, T. K. Y. (2021). The impact of sustainability practices on financial performance: empirical evidence from Sweden. Cogent Business & Management, 8(1), 1912526. tandfonline.com
254. Pham, Q. T., Ho, X. T., & Nguyen…, T. P. L. (2023). RETRACTED ARTICLE: Financial reporting quality in pandemic era: case analysis of Vietnamese enterprises. … of Sustainable Finance ….
255. Pidelaserra, J. M. (2024). The use of non-financial information in financial reporting. Research Handbook on Financial Accounting.
256. Piepponen, A., Ritala, P., Keränen, J., & Maijanen, P. (2022). Digital transformation of the value proposition: A single case study in the media industry. Journal of Business Research, 150, 311-325. sciencedirect.com
257. Pizzi, S., Rosati, F., & Venturelli, A. (2021). The determinants of business contribution to the 2030 Agenda: Introducing the SDG Reporting Score. Business Strategy and the Environment, 30(1), 404-421. researchgate.net
258. Pokhrel, S. R., Hewage, K., Chhipi-Shrestha, G., Karunathilake, H., Li, E., & Sadiq, R. (2021). Carbon capturing for emissions reduction at building level: A market assessment from a building management perspective. Journal of Cleaner Production, 294, 126323.
259. Pollman, E. (2024). The making and meaning of ESG. Harv. Bus. L. Rev.. ssrn.com
260. Popescu, I. S., Hitaj, C., & Benetto, E. (2021). Measuring the sustainability of investment funds: A critical review of methods and frameworks in sustainable finance. Journal of Cleaner Production. sciencedirect.com
261. Qian, H., Zhang, L., Zhang, D., & Wang, K. (2024). Restoring Turbulent Images Based on an Adaptive Feature-fusion Multi-input—Multi-output Dense U-shaped Network. Current Optics and Photonics. optica.org
262. Raihan, A. (2023). A review on the integrative approach for economic valuation of forest ecosystem services. Journal of Environmental Science and Economics. researchgate.net
263. Raimo, N. (2021). Integrated reporting: State of play, theoretical underpinnings and empirical insights: The role of corporate governance mechanisms.
264. Rane, N. (2023). Role and challenges of ChatGPT and similar generative artificial intelligence in finance and accounting. Available at SSRN 4603206. ssrn.com

265. Rane, N. L., Choudhary, S. P., & Rane, J. (2024). Artificial Intelligence-driven corporate finance: enhancing efficiency and decision-making through machine learning, natural language processing, and robotic process automation in corporate governance and sustainability. Studies in Economics and Business Relations, 5(2), 1-22. sabapub.com
266. Ranjan, J. & Foropon, C. (2021). Big data analytics in building the competitive intelligence of organizations. International Journal of Information Management.
267. Rasoulinezhad, E. & Taghizadeh-Hesary, F. (2022). Role of green finance in improving energy efficiency and renewable energy development. Energy Efficiency. springer.com
268. Razak, I. (2024). Sustainable marketing strategy: building an eco-friendly brand. BIOS: Jurnal Informatika dan Sains. seaninstitute.or.id
269. Ren, Y. S., Ma, C. Q., Chen, X. Q., Lei, Y. T., & Wang, Y. R. (2023). Sustainable finance and blockchain: A systematic review and research agenda. Research in International Business and Finance, 64, 101871.
270. Renaldo, N., Andi, A., Putri, N. Y., & Yani, F. (2023, May). Development of Teaching Materials for a New Accounting Paradigm: From Concepts to Green Accounting Types. In International Conference on Business Management and Accounting (Vol. 1, No. 2, pp. 443-451). pelitaindonesia.ac.id
271. Riahi, K., Schaeffer, R., Arango, J., Calvin, K., Guivarch, C., Hasegawa, T., ... & Vuuren, D. P. V. (2022). Mitigation pathways compatible with long-term goals. cgiar.org
272. Roa, L., Correa-Bahnsen, A., Suarez, G., Cortés-Tejada, F., Luque, M. A., & Bravo, C. (2021). Super-app behavioral patterns in credit risk models: Financial, statistical and regulatory implications. Expert Systems with Applications, 169, 114486. academia.edu
273. Rogers Van Katwyk, S., Weldon, I., Giubilini, A., Kirchhelle, C., Harrison, M., McLean, A., ... & Hoffman, S. J. (2023). Making use of existing international legal mechanisms to manage the global antimicrobial commons: identifying legal hooks and institutional mandates. Health Care Analysis, 31(1), 9-24. springer.com
274. Rothman, T. (2023). Climate Change Risk for Financial Institutions: Predicting Corporate Greenhouse Gas Emissions. utwente.nl
275. Roy, P. K. (2023). Enriching the green economy through sustainable investments: An ESG-based credit rating model for green financing. Journal of Cleaner Production.
276. Sacchi, R., Terlouw, T., Siala, K., Dirnaichner, A., Bauer, C., Cox, B., ... & Luderer, G. (2022). PRospective EnvironMental Impact asSEment (premise): A streamlined approach to producing databases for prospective life cycle assessment using integrated assessment models. Renewable and Sustainable Energy Reviews, 160, 112311. sciencedirect.com
277. Sadiq, M., Amayri, M. A., Paramaiah, C., Mai, N. H., Ngo, T. Q., & Phan, T. T. H. (2022). How green finance and financial development promote green economic growth: deployment of clean energy sources in South Asia. Environmental Science & Pollution Research, 29(43).
278. Sadiq, M., Nonthapot, S., Mohamad, S., Chee Keong, O., Ehsanullah, S., & Iqbal, N. (2022). Does green finance matter for sustainable entrepreneurship and environmental corporate social responsibility during COVID-19?. China Finance Review International, 12(2), 317-333. sjtu.edu.cn
279. Sakas, D. P., Giannakopoulos, N. T., & Trivellas, P. (2024). Exploring affiliate marketing's impact on customers' brand engagement and vulnerability in the online banking service sector. International Journal of Bank Marketing, 42(6), 1282-1312.

280. Sakas, D. P., Giannakopoulos, N. T., Terzi, M. C., Kamperos, I. D. G., & Kanellos, N. (2024). What is the connection between Fintechs' video marketing and their vulnerable customers' brand engagement during crises?. International Journal of Bank Marketing, 42(6), 1313-1347.
281. Sartzetakis, E. S. (2021). Green bonds as an instrument to finance low carbon transition. Economic Change and Restructuring. ssrn.com
282. Schmitt, R., Rossi, A., Bensoussan, A., Schmitt, R., Rossi, A., & Bensoussan, A. (2022). Digital Transformation of the Omni-personal Customer Journey. Omni-personal Luxury: How to Transform your Luxury Business for the Digital Age, 63-139.
283. Schütze, F. & Stede, J. (2024). The EU sustainable finance taxonomy and its contribution to climate neutrality. Journal of Sustainable Finance & Investment. tandfonline.com
284. Seibert, S. A. (2021). Problem-based learning: A strategy to foster generation Z's critical thinking and perseverance. Teaching and Learning in Nursing. nih.gov
285. Selivanova, N., Borkovska, V., Mykytyuk, P., Holiachuk, N., Huz, M., & Zaitsev, O. V. (2022). Improving Accounting and Management of Settlements with Foreign Suppliers in the Context of Global Digitalization on the Example of Agricultural Enterprise. sumdu.edu.ua
286. Sethi, L., Behera, B., & Sethi, N. (2024). Do green finance, green technology innovation, and institutional quality help achieve environmental sustainability? Evidence from the developing economies. Sustainable Development.
287. Settembre-Blundo, D., González-Sánchez, R., Medina-Salgado, S., & García-Muiña, F. E. (2021). Flexibility and resilience in corporate decision making: a new sustainability-based risk management system in uncertain times. Global Journal of Flexible Systems Management, 22(Suppl 2), 107-132. springer.com
288. Shangguan, D., Yang, L., Wang, J., Li, D., Li, P., Zhang, Y., & Zhou, X. (2024). Case study on carbon emission of a traditional Chinese medicine pharmaceutical enterprise toward carbon neutrality. Journal of Cleaner Production, 450, 141600.
289. Shanshool, M. H. M., & Al-Mashhadani, B. N. A. (2024). Applying International Valuation Standards to Valuate Non-current Assets and Their Impact on the Financial Reporting Quality to Achieve Business Sustainability. In Business Development via AI and Digitalization: Volume 2 (pp. 155-167). Cham: Springer Nature Switzerland.
290. Shantilawati, I., Zanubiya, J., Fanani, F., Jensen, H., Millah, S., & Lutfiani, N. (2024). Challenges in securing data and networks from modern cyber threats. International Journal of Cyber and IT Service Management, 4(2), 88-96. iaic-publisher.org
291. Sharma, M. & Choubey, A. (). Green banking initiatives: a qualitative study on Indian banking sector. Environment. springer.com
292. Sheng, J., Amankwah‐Amoah, J., Khan, Z., & Wang, X. (2021). COVID‐19 pandemic in the new era of big data analytics: Methodological innovations and future research directions. British Journal of Management, 32(4), 1164-1183. wiley.com
293. Shin, S., Bai, L., Burnett, R. T., Kwong, J. C., Hystad, P., van Donkelaar, A., ... & Chen, H. (2021). Air pollution as a risk factor for incident chronic obstructive pulmonary disease and asthma. A 15-year population-based cohort study. American journal of respiratory and critical care medicine, 203(9), 1138-1148. atsjournals.org
294. Shoetan, P. O. & Familoni, B. T. (2024). Transforming fintech fraud detection with advanced artificial intelligence algorithms. Finance & Accounting Research Journal. fepbl.com

295. Shulla, K. & Leal-Filho, W. (2023). Achieving the UN Agenda 2030: Overall actions for the successful implementation of the Sustainable Development Goals before and after the 2030 deadline. European Union Parliament. agenda-2030.fr
296. Sikkema, R., Proskurina, S., Banja, M., & Vakkilainen, E. (2021). … can solid biomass contribute to the EU's renewable energy targets in 2020, 2030 and what are the GHG drivers and safeguards in energy-and forestry sectors …. Renewable Energy. sciencedirect.com
297. Singh, A. K., Raza, S. A., Nakonieczny, J., & Shahzad, U. (2023). Role of financial inclusion, green innovation, and energy efficiency for environmental performance? Evidence from developed and emerging economies in the lens of sustainable development. Structural Change and Economic Dynamics, 64, 213-224.
298. Singhania, M., & Saini, N. (2023). Institutional framework of ESG disclosures: comparative analysis of developed and developing countries. Journal of Sustainable Finance & Investment, 13(1), 516-559.
299. Singhania, M., Chadha, G., & Prasad, R. (2024). Sustainable finance research: review and agenda. International Journal of Finance & Economics, 29(4), 4010-4045.
300. Singhania, M., Saini, N., Shri, C., & Bhatia, S. (2024). Cross-country comparative trend analysis in ESG regulatory framework across developed and developing nations. Management of Environmental Quality: An International Journal, 35(1), 61-100.
301. Sinha, A., Ghosh, V., Hussain, N., Nguyen, D. K., & Das, N. (2023). Green financing of renewable energy generation: Capturing the role of exogenous moderation for ensuring sustainable development. Energy economics. sciencedirect.com
302. Song, M., Mangla, S. K., Wang, J., Zhao, J., & An, J. (2022). Asymmetric information,"coal-to-gas" transition and coal reduction potential: An analysis using the nonparametric production frontier method. Energy Economics.
303. Steuer, S. & Tröger, T. H. (2022). The role of disclosure in green finance. Journal of Financial Regulation. oup.com
304. Stoll, P. P., Pauw, W. P., Tohme, F., & Grüning, C. (2021). Mobilizing private adaptation finance: lessons learned from the Green Climate Fund. Climatic Change. springer.com
305. Strielkowski, W., Civín, L., Tarkhanova, E., Tvaronavičienė, M., & Petrenko, Y. (2021). Renewable energy in the sustainable development of electrical power sector: A review. Energies, 14(24), 8240. mdpi.com
306. Strohn, M. (2021). The Long Shadow of World War II: The Legacy of the War and Its Impact on Political and Military Thinking Since 1945.
307. Su, R., Obrenovic, B., Du, J., Godinic, D., & Khudaykulov, A. (2022). COVID-19 pandemic implications for corporate sustainability and society: A literature review. International Journal of Environmental Research and Public Health, 19(3), 1592. mdpi.com
308. Taghizadeh-Hesary, F., Yoshino, N., & Phoumin, H. (2021). Analyzing the characteristics of green bond markets to facilitate green finance in the post-COVID-19 world. Sustainability. mdpi.com
309. Taherdoost, H. (2021). Data collection methods and tools for research; a step-by-step guide to choose data collection technique for academic and business research projects. International Journal of Academic Research in Management (IJARM), 10(1), 10-38. hal.science

310. Tambo, E., Djuikoue, I. C., Tazemda, G. K., Fotsing, M. F., & Zhou, X. N. (2021). Early stage risk communication and community engagement (RCCE) strategies and measures against the coronavirus disease 2019 (COVID-19) pandemic crisis. Global Health Journal, 5(1), 44-50. sciencedirect.com
311. Taneja, S., Kaur, S., & Özen, E. (2022). Using green finance to promote global growth in a sustainable way. International Journal of Green Economics, 16(3), 246-257.
312. Thakur, J. S., Nangia, R., & Singh, S. (2021). Progress and challenges in achieving noncommunicable diseases targets for the sustainable development goals. FASEB BioAdvances. nih.gov
313. Thangavel, P., Pathak, P., & Chandra, B. (2022). Consumer decision-making style of gen Z: A generational cohort analysis. Global Business Review, 23(3), 710-728. researchgate.net
314. Tiron-Tudor, A., Deliu, D., Farcane, N., & Dontu, A. (2021). Managing change with and through blockchain in accountancy organizations: A systematic literature review. Journal of Organizational Change Management, 34(2), 477-506. researchgate.net
315. Tong, L., Jabbour, C. J. C., Najam, H., & Abbas, J. (2022). Role of environmental regulations, green finance, and investment in green technologies in green total factor productivity: Empirical evidence from Asian region. Journal of Cleaner Production.
316. Toromade, A. S., Soyombo, D. A., Kupa, E., & Ijomah, T. I. (2024). Reviewing the impact of climate change on global food security: Challenges and solutions. International Journal of Applied Research in Social Sciences, 6(7), 1403-1416. researchgate.net
317. Toxopeus, H. & Polzin, F. (2021). Reviewing financing barriers and strategies for urban nature-based solutions. Journal of Environmental Management. sciencedirect.com
318. Tran, K., Nguyen, T., Tran, Y., Nguyen, A., Luu, K., & Nguyen, Y. (2022). Eco-friendly fashion among generation Z: Mixed-methods study on price value image, customer fulfillment, and pro-environmental behavior. Plos one. plos.org
319. Traversy, G., Barnieh, L., Akl, E. A., Allan, G. M., Brouwers, M., Ganache, I., ... & Tonelli, M. (2021). Managing conflicts of interest in the development of health guidelines. Cmaj, 193(2), E49-E54. cmaj.ca
320. Trouwloon, D., Streck, C., Chagas, T., & Martinus, G. (2023). Understanding the use of carbon credits by companies: a review of the defining elements of corporate climate claims. Global challenges, 7(4), 2200158. wiley.com
321. Truman, E. M. (2022). The IMF should enhance the role of SDRs to strengthen the international monetary system. Peterson Institute for International Economics Working Paper, (22-20). ssrn.com
322. Tsiligiris, V. & Bowyer, D. (2021). Exploring the impact of 4IR on skills and personal qualities for future accountants: a proposed conceptual framework for university accounting education. Accounting Education. tandfonline.com
323. Turzo, T., Marzi, G., Favino, C., & Terzani, S. (2022). Non-financial reporting research and practice: Lessons from the last decade. Journal of Cleaner Production. gmarzi.com
324. Ubaid, A. (2021). Intelligent Data-Driven Methods for Demand and Price Prediction in the Shipping Industry. proquest.com
325. Udeagha, M. C. & Ngepah, N. (2023). The drivers of environmental sustainability in BRICS economies: do green finance and fintech matter?. World Development Sustainability. sciencedirect.com
326. Udeagha, M. C., & Muchapondwa, E. (2023). Green finance, fintech, and environmental sustainability: fresh policy insights from the BRICS nations. International Journal of Sustainable Development & World Ecology, 30(6), 633-649. researchgate.net

327. Umoh, E. (2024). Non-Current Assets and Financial Performance of Manufacturing Companies Listed in Nigeria: A Study of BUA Cement Plc (2015-2023). Non-Current Assets and Financial Performance of Manufacturing Companies Listed in Nigeria: A Study of BUA Cement Plc (2015-2023; September 20, 2024). ssrn.com
328. Valeri, M. & Baggio, R. (2021). Social network analysis: Organizational implications in tourism management. International Journal of Organizational Analysis. iby.it
329. Van Holt, T. & Whelan, T. (2021). Research frontiers in the era of embedding sustainability: Bringing social and environmental systems to the forefront. Journal of Sustainability Research. hapres.com
330. van Noordt, C. & Tangi, L. (2023). The dynamics of AI capability and its influence on public value creation of AI within public administration. Government Information Quarterly. sciencedirect.com
331. Velte, P. (2021). Environmental performance, carbon performance and earnings management: Empirical evidence for the European capital market. Corporate Social Responsibility and Environmental Management, 28(1), 42-53. wiley.com
332. Velte, P. (2022). Archival research on integrated reporting: a systematic review of main drivers and the impact of integrated reporting on firm value. Journal of Management and Governance. springer.com
333. Verma, A., Lamsal, K., & Verma, P. (2022). An investigation of skill requirements in artificial intelligence and machine learning job advertisements. Industry and Higher Education, 36(1), 63-73. sagepub.com
334. Vyas, L. (2022). “New normal” at work in a post-COVID world: work–life balance and labor markets. Policy and Society. oup.com
335. Walczak, D., Dziawgo, L., Dziawgo, D., Buszko, M., Pawłowski, J., Żołądkiewicz-Kuzioła, A., & Krupa, D. (2021). Attitudes and Behaviors Regarding Environmental Protection in the Financial Decisions of Individual Consumers. Energies, 14(7), 1934. mdpi.com
336. Wang, F., Cai, W., & Elahi, E. (2021). Do Green Finance and Environmental Regulation Play a Crucial Role in the Reduction of CO2 Emissions? An Empirical Analysis of 126 Chinese Cities. Sustainability. mdpi.com
337. Wang, F., Wang, R., & He, Z. (2021). The impact of environmental pollution and green finance on the high-quality development of energy based on spatial Dubin model. Resources Policy.
338. Wang, F., Zhou, X., & Gan, T. (2024). Can green funds improve corporate environmental, social, and governance performance? Evidence from Chinese-listed companies.
339. Wang, K. H., Zhao, Y. X., Jiang, C. F., & Li, Z. Z. (2022). Does green finance inspire sustainable development? Evidence from a global perspective. Economic Analysis and Policy.
340. Wang, M., Li, X., & Wang, S. (2021). Discovering research trends and opportunities of green finance and energy policy: A data-driven scientometric analysis. Energy Policy.
341. Wang, N., Pan, H., Feng, Y., & Du, S. (2024). How do ESG practices create value for businesses? Research review and prospects. Sustainability Accounting, Management and Policy Journal, 15(5), 1155-1177.
342. Wang, T., Umar, M., Li, M., & Shan, S. (2023). Green finance and clean taxes are the ways to curb carbon emissions: An OECD experience. Energy Economics.
343. Wang, X. & Wang, Q. (2021). Research on the impact of green finance on the upgrading of China's regional industrial structure from the perspective of sustainable development. Resources Policy.

344. Wang, Y., Delgado, M. S., & Xu, J. (2023). When and where does it pay to be green?–A look into socially responsible investing and the cost of equity capital. International Journal of Corporate Social Responsibility, 8(1), 1. springer.com

345. Ward, S. & Pedersen, C. D. (2021). The break-up of Greater Britain.

346. Wasan, P., Kumar, A., & Luthra, S. (2021). Green finance barriers and solution strategies for emerging economies: The case of India. IEEE Transactions on Engineering Management, 71, 414-425.

347. Weiland, S., Hickmann, T., Lederer, M., Marquardt, J., & Schwindenhammer, S. (2021). The 2030 agenda for sustainable development: transformative change through the sustainable development goals?. Politics and Governance, 9(1), 90-95. cogitatiopress.com

348. Weldon, I. & Hoffman, S. J. (2021). Bridging the commitment-compliance gap in global health politics: lessons from international relations for the global action plan on antimicrobial resistance. Global Public Health. tandfonline.com

349. Wijaya, P. D. & Bens, M. (2022). Benefits and challenges of implementing integrated reporting for royal schiphol group–a study for schiphol group to achieve their 2050 goal of zero emission airport. Diponegoro Journal of Accounting. undip.ac.id

350. Wolniak, R. & Skotnicka-Zasadzień, B. (2022). Development of photovoltaic energy in EU countries as an alternative to fossil fuels. Energies. mdpi.com

351. Wren, B. (2022). Sustainable supply chain management in the fast fashion Industry: A comparative study of current efforts and best practices to address the climate crisis. Cleaner Logistics and Supply Chain. sciencedirect.com

352. Wu, D., Yang, W., & Li, J. (2024). Fault detection method for transmission line components based on lightweight GMPPD-YOLO. Measurement Science and Technology.

353. Wu, Y. & Huang, S. (2022). The effects of digital finance and financial constraint on financial performance: Firm-level evidence from China's new energy enterprises. Energy Economics.

354. Xu, H., Jia, Y., Sun, Z., Su, J., Liu, Q. S., Zhou, Q., & Jiang, G. (2022). Environmental pollution, a hidden culprit for health issues. Eco-Environment & Health, 1(1), 31-45. sciencedirect.com

355. Xu, Y., Li, S., Zhou, X., Shahzad, U., & Zhao, X. (2022). How environmental regulations affect the development of green finance: Recent evidence from polluting firms in China. Renewable Energy.

356. Yadav, A., Gyamfi, B. A., Asongu, S. A., & Behera, D. K. (2024). The role of green finance and governance effectiveness in the impact of renewable energy investment on CO2 emissions in BRICS economies. Journal of Environmental Management, 358, 120906. sciencedirect.com

357. Yadav, D., Rangabhashiyam, S., Verma, P., Singh, P., Devi, P., Kumar, P., ... & Kumar, K. S. (2021). Environmental and health impacts of contaminants of emerging concerns: Recent treatment challenges and approaches. Chemosphere, 272, 129492.

358. Yin, X. & Xu, Z. (2022). An empirical analysis of the coupling and coordinative development of China's green finance and economic growth. Resources Policy.

359. Youvan, D. C. (2024). Future Cyber Threats to Central Banks: Projecting the Evolution of Financial Cyberattacks in a Quantum and AI-Driven World. researchgate.net

360. Yu, C. H., Wu, X., Zhang, D., Chen, S., & Zhao, J. (2021). Demand for green finance: Resolving financing constraints on green innovation in China. Energy policy. e-tarjome.com

361. Yu, E. P. & Van Luu, B. (2021). International variations in ESG disclosure–do cross-listed companies care more?. International Review of Financial Analysis. bbk.ac.uk

362. Yu, Y., Yan, Y., Shen, P., Li, Y., & Ni, T. (2022). Green financing efficiency and influencing factors of Chinese listed construction companies against the background of carbon neutralization: a study based on three …. Axioms. mdpi.com

363. Yusuf, Z., Yusuf, F., Nuryanto, U., & Basrowi, B. (2024). Assessing organizational commitment and organizational citizenship behavior in ensuring the smoothness of the supply chain for medical hospital needs towards a green hospital: Evidence from Indonesia. Uncertain Supply Chain Management, 12(1), 181-194. growingscience.com

364. Zahra, S. A. (2021). The resource-based view, resourcefulness, and resource management in startup firms: A proposed research agenda. Journal of Management.

365. Zakeri, B., Paulavets, K., Barreto-Gomez, L., Echeverri, L. G., Pachauri, S., Boza-Kiss, B., ... & Pouya, S. (2022). Pandemic, war, and global energy transitions. Energies, 15(17), 6114. mdpi.com

366. Zarzycka, E. & Krasodomska, J. (2022). Non-financial key performance indicators: what determines the differences in the quality and quantity of the disclosures?. Journal of Applied Accounting Research. emerald.com

367. Zhan, J. X., & Santos-Paulino, A. U. (2021). Investing in the Sustainable Development Goals: Mobilization, channeling, and impact. Journal of International Business Policy, 4(1), 166. nih.gov

368. Zhang, D. (2022). Green financial system regulation shock and greenwashing behaviors: Evidence from Chinese firms. Energy Economics.

369. Zhang, H., Geng, C., & Wei, J. (2022). Coordinated development between green finance and environmental performance in China: The spatial-temporal difference and driving factors. Journal of Cleaner Production.

370. Zhang, H., Jia, F., & You, J. X. (2023). Striking a balance between supply chain resilience and supply chain vulnerability in the cross-border e-commerce supply chain. International Journal of Logistics Research and Applications, 26(3), 320-344. tandfonline.com

371. Zhang, S., Wu, Z., Wang, Y., & Hao, Y. (2021). Fostering green development with green finance: An empirical study on the environmental effect of green credit policy in China. Journal of environmental management.

372. Zhang, S., Zhang, M., Qiao, Y., Li, X., & Li, S. (2022). Does improvement of environmental information transparency boost firms' green innovation? Evidence from the air quality monitoring and disclosure program in China. Journal of Cleaner Production.

373. Zhang, X., Wang, Z., Zhong, X., Yang, S., & Siddik, A. B. (2022). Do green banking activities improve the banks' environmental performance? The mediating effect of green financing. Sustainability. mdpi.com

374. Zhang, Y. & He, Y. (2024). How does the green financial system affect environmentally friendly firms' ESG? Evidence from Chinese stock markets. Energy Economics.

375. Zhang, Y. F. & Umair, M. (2023). Examining the interconnectedness of green finance: an analysis of dynamic spillover effects among green bonds, renewable energy, and carbon markets. Environmental Science and Pollution Research. springer.com

376. Zheng, G. W., Siddik, A. B., Masukujjaman, M., & Fatema, N. (2021). Factors affecting the sustainability performance of financial institutions in Bangladesh: the role of green finance. Sustainability. mdpi.com

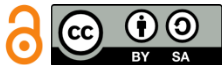
377. Zhou, G., Zhu, J., & Luo, S. (2022). The impact of fintech innovation on green growth in China: Mediating effect of green finance. Ecological Economics. sciencedirect.com

378. Zhu, J., Xiao, X., Du, W., Cai, Y., Yang, Z., Yin, Y., ... & Fang, W. (2024). Leveraging microalgae as a sustainable ingredient for meat analogues. Food Chemistry, 139360.

379. Ziegenbalg, D., Pannwitz, A., Rau, S., Dietzek‐Ivanšić, B., & Streb, C. (2022). Comparative evaluation of light‐driven catalysis: A framework for standardized reporting of data. Angewandte Chemie International Edition, 61(28), e202114106. wiley.com

380. Ziolo, M., Bak, I., & Cheba, K. (2021). The role of sustainable finance in achieving sustainable development goals: Does it work?. Technological and Economic Development of Economy, 27(1), 45-70. vgtu.lt

381. Zou, F., Huang, L., Asl, M. G., Delnavaz, M., & Tiwari, S. (2023). Natural resources and green economic recovery in responsible investments: Role of ESG in context of Islamic sustainable investments. Resources Policy.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