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REVIEW

Environmental-, social-, and governance-related factors for business investment and sustainability: a scientometric review of global trends

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Abstract

Consideration of environmental, social, and governance (ESG) factors can contribute to the environmental and economic performance of organizations in terms of investment and sustainability. This article thoroughly reviews the following factors influencing decisions regarding ESG policy by businesses: economic performance, environmental sustainability, pollution and waste, corporate social responsibility, gender, and governance structure. Moreover, we review the impact of these factors considering ESG disclosure, the global pandemic, religion, governing board and size, national interest, and technological advancements. The literature reports that ESG disclosures of environmental, economic, and social sustainability performance can strengthen business sustainability and performance. Religion-based businesses demonstrated better socio-environmental performance but not governance. An independent governing board has a positive impact; however, dual-gender boards negatively impact ESG disclosure. Significant diversification potential in ESG investments was observed during the COVID-19 pandemic. Adopting an ESG policy enhances the innovation capacity, innovative activities, value creation, and financial performance of businesses. Overall, the social and environmental performance demonstrated a significantly positive relationship with business sustainability, indicating that business economy and creating value for society are mutually dependent. The literature summary presented in this review will help future research on ESG factors that influence business investments and sustainability.

Keywords Business investment · Environment · Governance · Society · Sustainability

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1 Introduction

Global business investment and sustainability are receiving increasing attention in addressing sustainable development and green consumerism (Nosratabadi et al., 2019). The literature presents various strategies for making investment decisions considering environmental, social, and governance (ESG) factors. Generally, investors believe that ESG information is a benchmark that can provide more comprehensive and persuasive evidence on how your organization positively affects the world (Hayat & Orsagh, 2015; Bernow et al., 2017). ESG policy affects overall business performance in terms of sustainable business investments (Husted & de Sousa-Filho, 2017). In the past, sustainability has been the subject of considerable debate concerning the adaptation of ecosystems to environmental change. A literature review confirms that sustainability is essential for addressing such emerging problems (Rajesh, 2020). Sustainable business investment and development principles include a triple-based approach that integrates socioeconomic and environmental issues (Rajesh, 2020). The literature provides a mixed picture of the relationship between the environmental and financial performance of the organizations. Both positive and negative relationship trends have been reported by different researchers, in addition to a few neutral interactions (Kluza et al., 2021). A meta-analysis confirmed a clear positive correlation between social and environmental commitment and the financial performance and sustainability of a business (Orlitzky et al., 2003). Integrated sectors, especially financial institutions, are under pressure to use ESG analysis in decision-making (Buallay et al., 2020; Bąk & Cheba, 2020). Moreover, media pressure plays a key role in motivating companies to promote ESG transparency (Garcia-Sanchez et al., 2014).

Gender diversity is an important factor in the economic and sustainable growth of a business. The establishment of a gender diversity board (GDB) in an organization can play a vital role in determining the relationship between gender and financial performance, equity risk, and ESG disclosure (Jizi & Nehme, 2017) (Wasiuzzaman & Wan Mohammad, 2020). Previous studies have reported positive, negative, and indecisive relationships between GDB, financial risk, and organizational performance (Sila et al., 2016; Haque & Ntim, 2018; Perryman et al., 2016).

The ESG disclosure demonstrates a strong correlation between governance disclosures and analyst forecast accuracy, which does not exist for environmental disclosure (Bernardi & Stark, 2018). ESG disclosure can also result in greater revenue for businesses than nondisclosure (Dhaliwal et al., 2011) and can be aligned with national interest (Orij, 2010). A previous study investigated the number and quality of ESG disclosures by companies based on its three inherent components. It concluded that firms exposed to additional testing and adequate monitoring by institutional investors were less likely to participate in ESG green washing (Yu et al., 2020). Corporate ESG disclosures have increased significantly to fulfill stakeholder requirements and create greater corporate accountability (Eccles et al., 2014; Tamimi & Sebastianelli, 2017). ESG disclosures can increase public awareness and corporate acceptance. This can lead to increased businesses using varied strategies to run their business and globally disclose their ESG information sustainably. The 2018 Global Reporting Initiative (GRI) report indicates that 12,964 companies worldwide have issued 50,197 voluntary sustainability reports with various levels of ESG disclosure (Dumay et al., 2010). Therefore, it is crucial to focus on whether the disclosure of ESG policy (satisfactory or poor) adds or reduces substantial value, considering shareholder interests. However, national risk and global stakeholder engagement may also affect this relationship (Rodríguez et al., 2014; Dhaliwal et al., 2012).

Some researchers have investigated the impact of cross-listing on the ESG performance of firms, arguing that it satisfies expectations and improves ESG performance by providing strong legitimacy (Stevens & Shenkar, 2012; Ramachandran & Pant, 2010). Cross-listed firms fulfill social expectations regarding environmental protection and defend the interests of their constituents (Del Bosco & Misani, 2016). Literature reported the magnitude of ESG consideration in robust systems to ensure complete terms and the potential impact of sustainability indicators on economic performance (Deegan, 2002; Bassen & Kovács, 2020; Hummel & Schlick, 2016). Scholars have also reported the role of Islamic firms in preventing environmental damage and supporting social empowerment (Azmi et al., 2019; Chowdhury & Masih, 2015; Qoyum et al., 2021a, 2021b; Sairally, 2013). Accountability, public responsibility, technological advancements, and the global pandemic are important factors affecting the economic sustainability of a business.

The ESG is a function of public accountability and corporate social responsibility (CSR) that can contribute to the economic performance of organizations. Findings suggest that while social performance demonstrates significant economic improvement, environmental performance exerts a small positive effect, and a weak correlation exists between governance and economic activity (Sila & Cek, 2017). The literature shows a positive relationship between CSR and technological innovation. Research on technological change rates has shown the ability of an organization to shape its innovation capacity (Shao & Lin, 2016). Blockchain technology can be helpful for environmental sustainability to achieve sustainable development goals (Parmentola et al., 2022). The COVID-19 pandemic has highlighted the link between humans, the planet, and the benefits of innovation, especially with regard to health, poverty, climate change, and the global financial system (Adams & Abhayawansa, 2021). For the expansion of ESG policy, the latest technological advancements, global pandemic issues as well as geographical, political, and religious factors should be considered. This can increase investor interest by facilitating the decision to start or continue with a running business to maintain ESG practices. Previously, no comprehensive study has discussed the global rise and impact of all ESG-related factors on corporate business investment and sustainability. Therefore, this study aims to identify the process behind selecting ESG factors and their importance to investors in making investment decisions. By examining the literature, this review identified critical influential factors that companies should consider for their sustainability and analyzed them according to their relationship with ESG categories. We also address limitations in previous research and discuss future perspectives and implications.

2 ESG drivers, indices, and factors

It is important to understand how and why ESG factors can affect the performance of a business. The literature suggests that established investors and asset managers focus on ESG policy to analyze risk management and improve risk-adjusted returns. Surveys have shown that 70% of investors make decisions based on sustainable investment criteria, and the remaining 14% actively consider it (Boffo & Patalano, 2020); > 50% of asset managers and investors seek to implement ESG policy for long-term benefits and firm reputation and < 30% to offer various products (Berg et al., 2019); and growth in ESG policy was faster than that of other business policy strategies, with investments worth several trillions expected within the next few years. The various drivers of ESG incorporation in business decision-making are shown in Fig. 1.

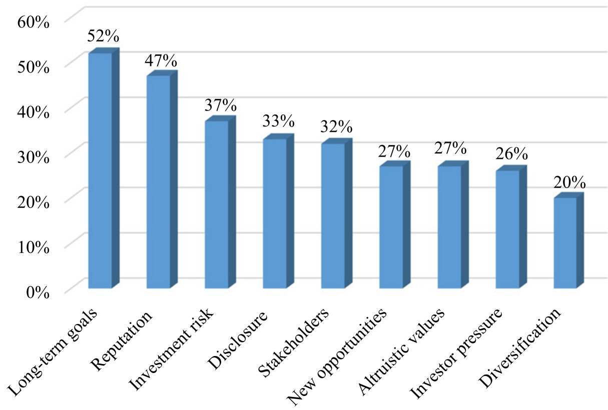


Fig. 1 Drivers of ESG integration in business decision-making (Boffo & Patalano, 2020)

Different index providers have discussed factors related to ESG policies. ESG index providers are given in Table 1. A sustainable environment, energy efficiency, carbon emissions, pollution, and the use of natural resources are considered environmental factors. Workforce-related matters, including health, training, diversity, human and community rights in the big picture, and privacy, are significant social aspects (Leach, 2016). A business can face legal issues and penalties owing to poor environmental policies. On the social side, the inappropriate handling of workers can result in low productivity, high absence, weak relationships with clients, and poor business governance. It can also cause unacceptable behaviors associated with accounting, wages, fraud, and disclosure irregularities (Winther, 2021). The literature reported > 400 different ESG metrics used by Thomson Reuters; for this review, we focused on 186 metrics and divided them into ten groups: emissions, resource use, workforce, shareholders, innovation, community, human rights, product responsibility, management, and CSR approach (Boffo & Patalano, 2020; Nemoto & Morgan, 2020).

Bloomberg's environmental and social impact metrics deliver exclusive ESG data by grouping industries into lower, medium, and higher environmental impact categories, with only lower and higher social metrics at the same governance metric in each industrial

Table 1 Major ESG indices and relevant factors used by different providers

Major indices	Environmental	Social	Governance
Bloomberg	Carbon emission Climate change Pollution/Waste Resource depletion Renewable energy	Supply chain Gender diversity Political influence Human rights Community relations	Executive compensation Shareholder rights Staggered boards Independent directors Cumulative voting
Thomson Reuters	Resource usage Carbon releases Invention	Employee Basic rights Public Product accountability	Corporate governance Corporate behavior
MSCI	Climate change Sustainability initiative Pollution/Waste Natural resources	Human capital Product liability Stakeholder opposition Social opportunities	Management Shareholders CSR strategy

sector. Thomson Reuters provides innovative index- and index-related services globally for the finance community that help investors make better decisions. As responsible investing is becoming vital to investors' decisions, this index serves as a balanced benchmark for measuring the ESG performance of a business. Morgan Stanley Capital International (MSCI) is an international provider of real estate indices, multi-asset analysis, climate change, and ESG indices. Significant index matrices defined by Bloomberg, Thomson Reuters, and MSCI are presented in Table 1. Choosing one of these three indices is difficult because they consider different business-related factors. Therefore, investors are now asking for standardized reporting metrics because of the difficulties in using the various metrics for business investment and sustainability. Thus, several metrics providers have established procedures for ESG reporting, and others are eager to set standard guidelines (Inderst & Stewart, 2018).

The business sustainability flowchart proposed by the Sustainability Accounting Standards Board (SASB) is shown in Fig. 2, which explains environmental, governance, innovation, and social and workforce factors. As part of progress, the business sector integrates reporting frameworks regarding ethical standards and financial materiality (Hadjor, 2010). Certain index providers are unclear about industry standard metrics, and several attempts have been made to determine the most important features and indicators, including various sectors. However, while metric providers may provide the direction for building resources and their types to be disclosed, they do not generally offer greater financial advice for industrial feasibility (Park & Jang, 2021). This reveals a significant gap in explanations that can contribute to the rise of ESG rating providers. For decades, investors have focused on financial materiality in the business governance process and executive financial incentives for risk management. Three decades ago, the Organization for Economic Cooperation and Development (OECD) developed the Principles for Corporate Governance to evaluate the importance of business governance and its performance (Fernando, 2021). Climate change has significantly impacted the economic and financial growth of businesses, increasing awareness and forcing investors to draw a link between economics and climate risk management. The growth in climate change risk research highlights trends affecting the economic, financial, and business sectors. Climate change includes numerous physical risks such as hurricanes, fires, floods, and the adverse impacts of spillovers in supply chains

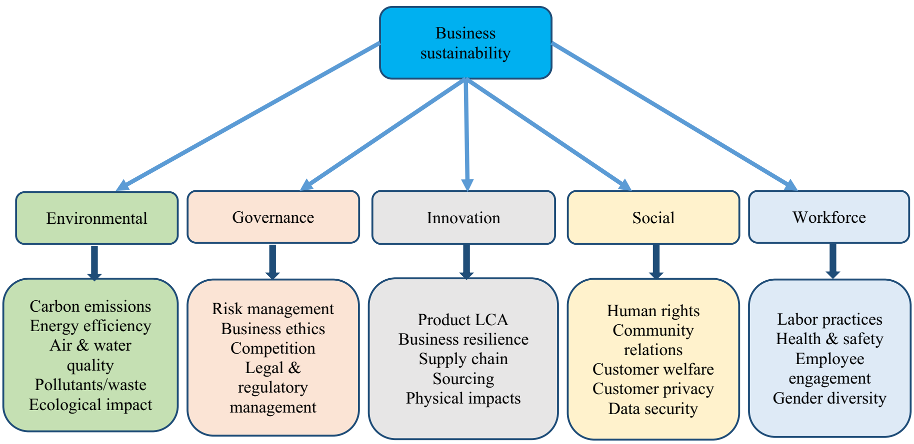


Fig. 2 Business sustainability flowchart proposed by SASB

or financial markets. Expectations regarding climate-related factors are increasing because they can significantly impact financial assets. Industries are particularly heavily exposed to nonperforming resources to reduce fossil fuel consumption and other hazards (McBrien et al., 2021). Innovation is equally important for business sustainability, including life cycle assessment of products, supply chains, sourcing, and business resilience. Although the instant effects of social media play a minor role, continuing profits may improve product strength, retain staff, and receive customer loyalty, which is generally related to CSR. Nevertheless, organizational investment generally highlights that obtaining societal support is the most challenging factor because there is little consensus in various countries about what is considered a tangible and appropriate standard (Madison & Schiehll, 2021). To date, COVID-19 has focused attention on the importance of social aspects incorporating performance and image and has led to ideas at what level companies should turn to participatory management to withstand unprecedented social challenges (Sugimoto, 2018). According to the SASB, the integration of ESG analysis for systematic study is important in the investment process for business sustainability.

Finally, integrating ESG policies entails precise and systematic implementation opportunities and risks in major organizational investment processes. In contrast to standard schemes, ESG policy incorporation does not require peer group evaluation or leader obesity because ESG factors are evaluated based on asset selection, measurement, and risk management processes (Sloggett & Gerritsen, 2016). Various strategies are used to integrate ESG factors into an investment, along with their advantages based on different asset classes and targets (Eccles et al., 2017). The hallmarks of ESG mergers usually comprise devoted governance to supervise ESG mergers; major capital provided for ESG consideration assessments within group management teams; clear eviction guidelines to avoid companies with very low scores; and collaborative development strategies, measurable research, and performance evaluation tools (Hill, 2020).

3 Methodology

An online systematic literature review based on the stages recommended by several authors was used to compile and analyze scientific information regarding ESG policy, as shown in Fig. 3. Systematic reviews of online publications that follow the Popular Reporting Standards for Systematic Reviews and Meta-Analysis Protocols have been reported (Mohamed Shaffril et al., 2021; Boland et al., 2017; Ampiaw et al., 2021). This protocol allows reviewers to make a suitable plan, understand a potential problem, and explicitly document according to the plan, allowing others to compare the protocol and then complete a review. Moreover, it helps to replicate and validate review methods if needed, prevents random decision-making regarding inclusion conditions and data extraction, and can decrease duplication of literature (Moher et al., 2015; Page et al., 2021). Therefore, we have adopted Meta-Analysis Protocols in this review because of the above-mentioned advantages.

The literature review revealed various aspects of ESG without specific definitions, such as economic, governance, social, ethical, and environmental factors; CSR; or socially responsible investment (Rezaee, 2016; Jain et al., 2016). However, the terms used were similar to ESG, which is important for investors to assess business conduct and ensure business sustainability. Environmental processes and disclosures include estimates of a company's carbon release, waste, pollution, climate change risks and conservation, and natural resources. Social knowledge ranges from labor linkage with legal product obligations,

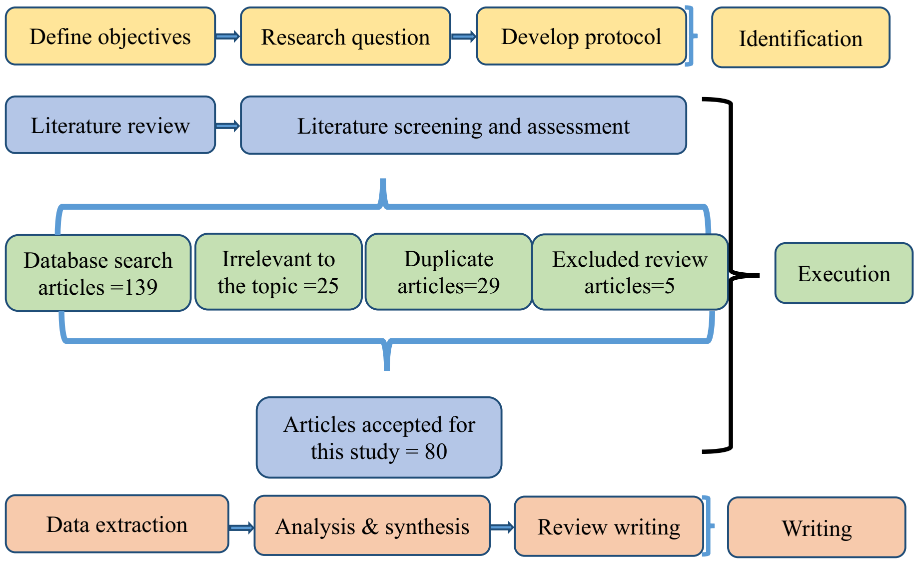


Fig. 3 Flow diagram of data search and selection for systematic review in this study

such as managing the supply chain, investing in the public interest, labor and human rights guidelines, and how health and safety effectively negate risks (Lee & Cave, 2014; Kim & Park, 2016). In addition, companies should have an active management structure that includes a board, research strategies, ethics, and shareholder rights according to the area and economy of the company, which can develop confidence and promote innovation in the market (Taliento et al., 2019). A three-dimensional framework (ESG) has been developed to reinforce management processes for observing and promoting sustainable business investments (Alsayegh et al., 2020).

The first phase of our study used meta-analysis to identify the ESG factors that influence business investment and sustainability. The meta-analysis was performed using a database of scientific articles compiled from published reviews in a specific area of interest. In the identification stage, we defined the review objectives as ESG, ESG disclosure, ESG influencing factors and implementation, ESG and industrial revolution, and economic and environmental aspects. Subsequently, research questions were defined for qualitative reviews to set a criterion for selecting studies for the systematic review (Ampiaw et al., 2021; Moher et al., 2009). A few research questions were: what is ESG, why is ESG important, what are the ESG influencing factors, and what are the economic and environmental impacts? Subsequently, a literature review protocol was developed to answer these questions and achieve research objectives. To address the question of article quality, we considered the content of peer-reviewed journals from search engines such as Web of Science, Google Scholar, Science Direct, Wiley Online, Scopus, and PubMed based on bibliometric analysis of scientific literature (Effendi et al., 2021). In addition to scientific reviews, other important information published before 2013–2021 was retrieved from publications selected from various news journals using keywords including ESG, ESG disclosure, ESG-related factors and applications, ESG and industrial transformation, and economic and environmental factors, and the results were selected up to September 30, 2021. Articles were considered for the study if they satisfied the following criteria: (1) original English research articles;

(2) published between January 2013 and September 2021; (3) discussed issues affecting ESG; (4) contained disclosure of ESG and its use; (4) discussed industry transformation and ESG relations; and (5) mentioned economic and environmental issues. The bibliographies of the selected topics have also been reviewed for additional references.

A flow diagram of data search and selection criteria for systematic review followed for this study is shown in Fig. 3 as adopted in a recent review article (Pattnaik et al., 2021). The action phase began with a search of selected websites. Duplicate articles (available on various websites and combinations) were considered only for a single study. Each selected article was rated as appropriate or unimportant based on its title and ability to respond to research questions. After the related articles were identified, an analysis of those studies was conducted. In this study, we thoroughly evaluated pertinent papers to choose only those directly related to the subject of ESG. Previously, the relevant data were cross-checked. The study phase began with the extraction of data, including identifying data closely related to the purpose of this study. Systematic article analysis and data evaluation were performed based on the grounded data theory (Valdés et al., 2021). Through a comparative analysis of articles, data were collected, coded, and investigated to produce ideas. A section-wise comparison was also conducted to establish associations between the topics, thus obtaining convincing answers to the questions and developing their meanings. Finally, the reporting phase began with the "writing" process, which involved appropriately combining data from articles for scientific interpretation through figures and tables. The analyzed data stated the main topics covering several ESG themes: (A) all related factors, (B) disclosure and implementation, (C) industrial transformation, and (D) economic and environmental factors.

Marczewska & Kostrzewski (2020) recently conducted a meta-analysis on the concept of sustainable business models (Marczewska & Kostrzewski, 2020). Using article review techniques, frequency measurements, and quote influence indicators, the authors conclude that business topics and sustainability are closely linked to entrepreneurship, innovation, and value-added research. However, as it was a bibliometric analysis, they did not develop their study into a formal model that excluded the size and significance of the relationship presented. Research on business sustainability and its drivers lacks the latest cross-industry meta-analysis that summarizes the current state of knowledge in the sector. In this study, we conduct a thorough literature review.

4 Assessment results

In this section, we assessed the literature based on publishers, journals, the annual rate of publications, global status, targeted area, and research category. A complete overview of the publication rates of ESG as a subject by various publishers between 2009 and 2021 is shown in Fig. 4. Notably, 12 different reference publishers published several studies. The distribution of articles considering the highest and lowest publishing rates per publisher was as follows: Elsevier led with 29 articles, followed by Wiley Online Library (22), MDPI (17), Springer (4), and Emerald Insight (2). The study also included (1) article from other publishers such as Taylor and Francis, Portfolio Management Research, Korea Economic Institute, Vilnius Tech, Scientific Information Database, and Inder Science Online.

The major journals from various publishers from 2013 to 2021 are shown in Fig. 5. Statistics indicate that approximately 38 journals with 38 references were published in approximately 80 articles. The distribution of the reviewed articles with the lowest publication

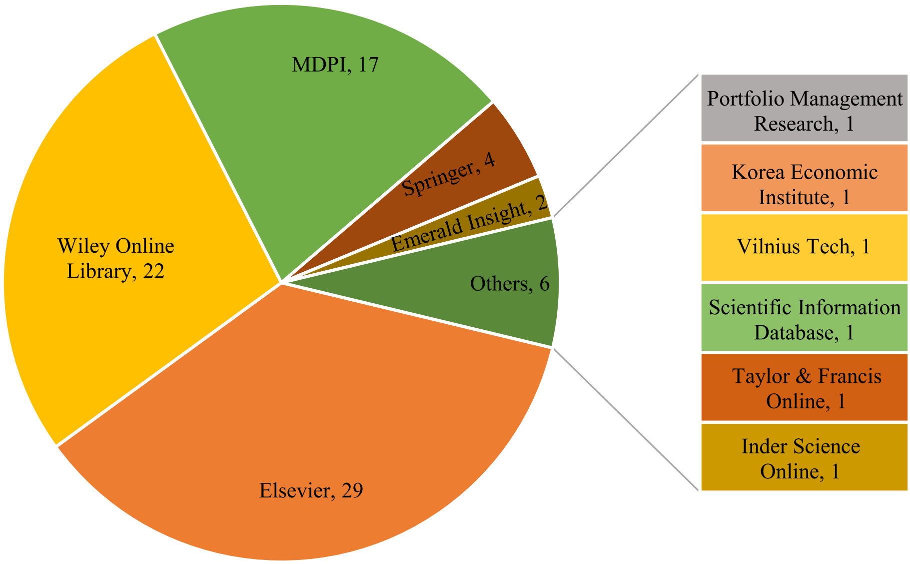
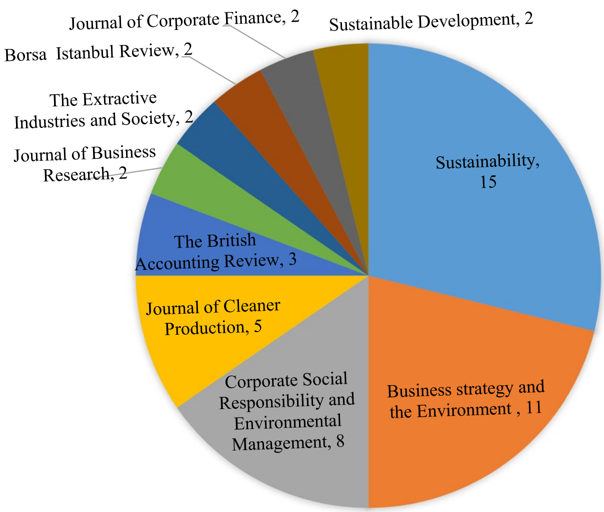


Fig. 4 Overview of articles published by various publishers

Fig. 5 Publications by various journals (≥ 2 publications; 2013–2021)



volume in each journal was as follows: 28 journals published one article within the title, 5 journals published (2) articles, and 1 journal published (3) articles. An astonishing peak of publication was linked to the listed journals: sustainability led by publishing (15) articles, followed by business and environmental strategy (11), public commitment and environmental management (8), clean production journals (5), and British accounting (3). Other journals, such as the Business Research Journal, the Extractive Industries and Society, Borsa Istanbul Review, and the Journal of Corporate Finance, published (2) articles each. In addition, (1) article from each of the other 28 magazines was considered. The distribution demonstrates the preference of researchers in publishing articles in Scopus and indexed journals.

The distribution of articles focusing on ESG related to business sustainability between 2013 and 2021 indicated that interest in this type of research increased at a specific rate until 2018 (Fig. 6). Generally, the number of published articles increased from 2018 to 2021; it increased significantly in 2021 and 2019, with (28) and (19) published papers, respectively. The number of books was lower than that during the peak years. This was due to reduced publication prices before 2018. The exception was the number of papers published in 2021 because the data were collected up to September 30, 2021, and a few articles may have been published by the end of 2021. These annual variations and improvements in publishing quality can be translated into two aspects. First, recent attention to sustainable business growth has increased the number of publications in the region, particularly over the past few years. We confirmed that the annual number of ESG study-based research papers has increased since 2018. Second, owing to the development and knowledge of social and environmental issues, strong policies are the main factors in ESG studies that stress and motivate businesses.

Globally, major countries (Fig. 6) have a strong interest in ESG-related factors affecting business sustainability based on the publishing rates per country, such as Spain (11) and Italy (8). The UK, China, the USA, and Canada published seven, five, four, and four articles, respectively. In addition, three publications from Australia, Malaysia, the UAE, Germany, South Korea, and Turkey were considered in this study. There is little interest in countries such as Indonesia, Japan, Estonia, Hong Kong, Mexico, Poland, Lebanon, and Brazil (two publications each), followed by France, Norway, Palestine, Pakistan, India, Romania, and Saudi Arabia (one article each). These variations in the number of ESG

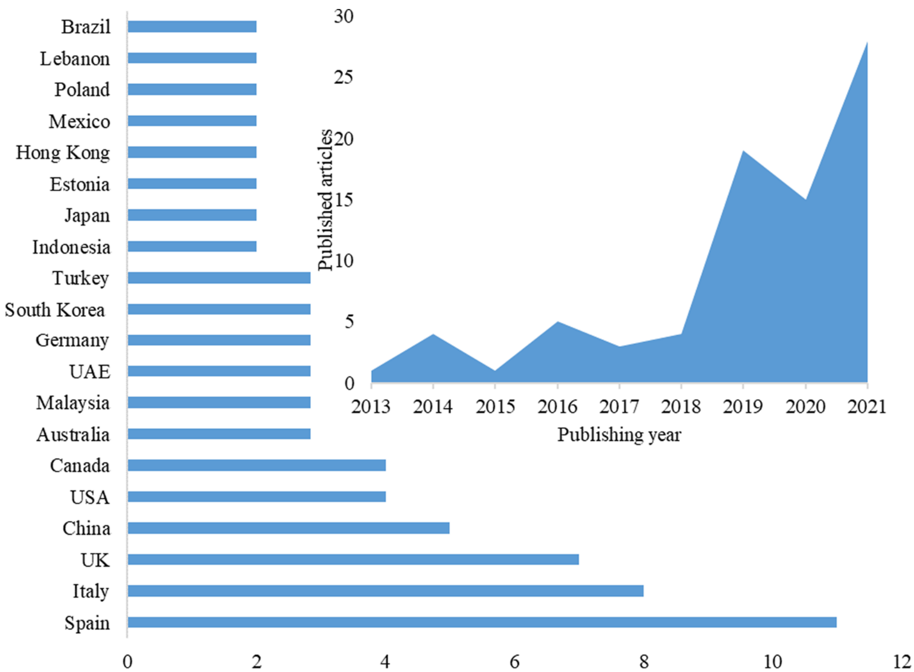


Fig. 6 Annual publication rates and global status of ESG literature studies

publications that contribute to the sustainability of the business in each country are due to the consideration, promotion, and implementation of ESG policies at the government level. As is well known, the proliferation of ESG problems in any region encourages local researchers to solve issues related to the field, improving knowledge and the value of publications. Although certain regions are ranked high globally, such as China, the USA, India, Europe, and Western Europe, a few (developed countries) have been obliged by organizations to implement ESG policies within the previous decade. Therefore, these developed countries pay less attention to the ESG factors that influence businesses and publish articles on this topic than countries in other regions (China and the USA). The high level of publishing in a few regions over the previous decade may be because several developing countries are still in the early stages of implementing ESG policies compared to developed regions that have addressed these issues before the last decade.

Articles were analyzed to determine ESG characteristics related to business investment and stability. Considering the nature of these factors, they were included in at least one of the following categories: environmental, social, administrative, financial, economic, socioeconomic, and accounting. The relationship between the identified assets and sustainable business in each article is described as a standard for the published article selected for this study, as shown in Fig. 7. With regard to the features of ESG and sustainable business used by authors worldwide, the maximum number of publications used the business and financial industries as their subjects, with 24 and 22 articles, respectively. This was followed by studies with an economic and environmental focus (17 articles) and community- and economics-based publications (seven articles). In addition, three articles each addressed ESG, environmental, and social welfare issues and their relationships with businesses. In contrast, only one article focusing on accounting and finance, sustainable governance, accounting, or public policy has been reported in the literature and is considered in this study. This publishing trend may occur because most business and financial studies consider ESG and its factors as important parameters for business growth, sustainability, and financial stability. Ecosystems are closely linked with economic, socioeconomic, and

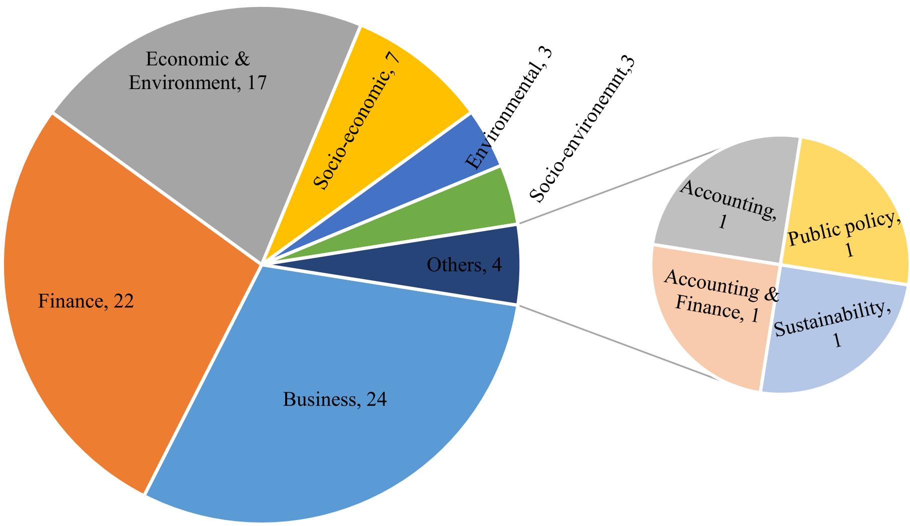


Fig. 7 Majorly targeted ESG research areas during 2013–2021

environmental research. This study highlights that business, financial, economic, and environmental areas have been at the forefront of research in the past decade. However, the social aspects of ESG were not found to be the primary objectives in the literature; this may be because of a lack of knowledge and introduction of the ESG concept worldwide. Therefore, further research on ESG factors relating to business investment and sustainability is required to collect additional information, understand them, and develop future policies for implementation.

5 Discussion

In recent years, business investments and sustainability have become major concerns for investors. Therefore, this study aims to identify ESG-related factors, their consideration criteria, and the importance of these factors for investors in decision-making for business investment and sustainability. Investors evaluate corporate social and environmental reactions based on ESG performance because firms with low scores face high ESG disputes. Governments and governing bodies also pressurize nonsocial and environmental companies that have failed to adopt ESG policies. ESG performance has become a symbol of environmental awareness and community commitment for organizations worldwide. Today, investors are more interested in the stable processes of a firm than in their operational and financial benefits. Firms that ignore ESG features and do not integrate them into their businesses face unnecessary consequences for investors (Shakil, 2020). A GDB can play an important role in addressing ESG and financial risks. However, research on gender issues in a firm's governing body is limited to specific gender relationships in other areas, including equity risk, ESG disclosure, and financial performance (Jizi & Nehme, 2017; Wasiuzzaman & Wan Mohammad, 2020). As important stakeholders, female panel members may balance the company's risks by making investment decisions more effectively than their male counterparts (Sila et al., 2016). Female decision-makers emphasized the attainment of environmental and social sustainability to gain funding from influential investors and a better resource approach (Haque & Ntim, 2018). In addition, the literature has reported positive, negative, and incomplete evidence of GDB and severe risk (Perryman et al., 2016; Lenard et al., 2014). The GDB may be associated with different possible factors, including social, cultural, religious, and geographical aspects. Therefore, an organization should consider them for better implementation of ESG and its linkage with society. In both developing and developed economies, a major trend has been observed concerning the use of a combination of non-financial factors, such as ethics and ESG, in deciding on business investment (Berry & Junkus, 2013; Crifo et al., 2015; Nakamura, 2013). The inclusion of non-financial criteria in evaluating firm performance and the investment selection process has been considered by several researchers as they have a significant relationship (Adam & Shauki, 2014; Nair & Ladha, 2014; Laldin & Furqani, 2013). Previous ESG literature has only explored the close connection between financial risk and ESG (Sassen et al., 2016; Shakil et al., 2019) and performance in various industries (Fatemi et al., 2018; Albitar et al., 2020; Duque-Grisales & Aguilera-Caracuel, 2021).

A summary of the ESG disclosures and related factors is presented in Table 2. Numerous factors have been studied, such as ESG disclosure, transparency, reporting and performance, ownership, competition, BGD, and corporate governance. These factors are studied to observe their effects on capital investment, value and performance, financial transparency, and religious factors. Although studies have demonstrated an association between

Table 2 ESG disclosure factors and their impact on businesses

Studied factor	Relative factor	References
ESG disclosure Ownership structure	Cost of capital	(Ellili, 2020)
ESG disclosure Competitive advantages ESG performance	Business performance	(Mohammad & Wasiuzzaman, 2021)
ESG disclosure ESG performance	Business value	(Brooks & Oikonomou, 2018)
Board gender diversity	ESG disclosure	(Husted & de Sousa-Filho, 2019)
ESG transparency and disclosure	Business value	Business & Sustainable Development Commission (2017)
ESG disclosure	Equity financing	(Crifo et al., 2015)
ESG disclosure	Business value	(Li et al., 2018)
ESG disclosure	Financial transparency	(Oncioiu et al., 2020)
Board gender diversity	ESG disclosure	(Cucari et al., 2018)
Corporate governance	ESG disclosure	(Lagasio & Cucari, 2019)
ESG reporting	Gender diversity	(Bravo & Reguera-Alvarado, 2019)
ESG reporting	Corporate sustainability	(Conca et al., 2021)
ESG disclosure	Cost of capital	(Gjergji et al., 2021)
ESG disclosure	Islamic banking	(Buallay et al., 2020)

management disclosure and the predictions of analysts, the link between management disclosure and environmental disclosure standards is weaker (Bernardi & Stark, 2018). The GRI Sustainable Reporting Guidelines promote sustainable reporting practices at a level comparable to financial reporting. The GRI guidelines recommend assessing ESG disclosure (Asante-Appiah, 2020). Over time, mandatory reporting requirements have been introduced in various countries, improving disclosure rules and resulting in a predictable increase in disclosure rates (Ioannou & Serafeim, 2017). CSR documents have historically included ESG disclosures. Firms that disclose ESG information can raise considerably more equity than non-disclosure firms (Dhaliwal et al., 2011). However, the national context constrains the preexisting potential and consequences of ESG disclosure (Orij, 2010). The literature sheds light on the impact of disclosure on socially responsible business practices and the non-liability of private equity funding. Investors support effective ESG processes by providing compliant businesses with the choice of equity required to ensure their growth and/or the potential to differentiate them from firms with poor ESG performance (Widyawati, 2020; Lagasio & Cucari, 2019). Otherwise, business owners feel an extra load of monitoring by institutional investors, discouraging them from participating in implementing ESG policy (Business & Sustainable Development Commission, 2017). Therefore, disclosure factors have positive and negative impacts if companies ask to disclose all details, which might be unacceptable due to financial and related issues.

Financial problems and disputes heighten fears about corporate transparency, reputation, ethics, and socio-environmental performance (Galbreath, 2013; Nicholson et al., 2011). Moreover, media pressure has played an important role in motivating companies to promote ESG disclosure and transparency (Garcia-Sanchez et al., 2014). Corporate ESG disclosures have increased significantly to satisfy stakeholder requirements and to create greater corporate accountability (Eccles et al., 2014; Tamimi & Sebastianelli, 2017).

Increasing public awareness and corporate acceptance have increased the number of firms using strategies to sustain and disclose their ESG knowledge globally (Xie et al., 2019). The 2018 GRI report revealed that 12,964 companies worldwide issued 50,197 voluntary sustainability reports at various levels of ESG information disclosure (Dumay et al., 2010). Studies have also examined the integrated effect of ESG exposure on robust performance (Taliento et al., 2019; Atan et al., 2018). Evidence-based studies improve accountability, transparency, and stakeholder trust, leading to collaboration and maintaining a solid three-pillar ESG structure to strengthen corporate business sustainability (Alsayegh et al., 2020). Researchers have reported that ESG disclosure improves performance even after controlling for competitive advantage. The implications of this study include the need to reconsider the level of ESG disclosure and the financial motivation of firms with high ESG disclosure points, as high ESG scores are associated with higher competitive gains (Mohammad & Wasiuzzaman, 2021). This study investigated whether greater ESG disclosure affected the business value and demonstrated a positive correlation between ESG disclosure and firm assets, signifying that enhanced transparency and accountability and improved stakeholder confidence can play a key role in increasing the assets of a firm (Li et al., 2018). Therefore, it is important to focus on whether the disclosure of ESG practices (either acceptable or poor) can create and undermine strong value, thereby creating or undermining profits for strong shareholders.

A comprehensive review of the ESG performance and related factors is provided in Table 3. Researchers have studied many factors, including their relative ones, to highlight the importance of specific topics. ESG performance was evaluated based on sustainability governance, country stakeholder orientation, risk, institutional and social context, the effect of a religious label, internationalization, ownership, global pandemic, and technological advancements. Understanding the relationship between sustainable governance and ESG performance in the institutional context is essential. Clearly, national risk (Rodríguez et al.,

Table 3 Overview of ESG performance and related factors

Studied factors	Relative factors	References
Sustainability governance, country stakeholder orientation, and country risk	ESG performance	(Husted & de Sousa-Filho, 2017)
Institutional and social context	ESG performance	(Kluza et al., 2021)
Effect of Islamic label	ESG performance	(Alda, 2021)
Cross-listing of firm	ESG performance	(Thiel et al., 2016)
ESG performance	Financial risk	(Paat et al., 2020)
ESG performance	Corporate context	(Paat et al., 2021)
Global equity indices	ESG performance	(Umar et al., 2020)
Internationalization	ESG performance	(Khalid et al., 2021)
Ownership	ESG performance	(Martínez-Ferrero & Lozano, 2021)
ESG performance	Sin stocks	(Paradis & Schiehll, 2021)
ESG performance	Financial performance	(Tanin et al., 2019)
COVID-19 Media coverage	ESG performance	(Akhtaruzzaman et al., 2021)
Innovation Technological changes	ESG implementation	(Broadstock et al., 2020)
Board gender diversity	ESG performance	(Qureshi et al., 2020) (Arayssi et al., 2020)

2014) and global stakeholder engagement may affect these relationships (Dhaliwal et al., 2012). Significant stakeholder engagement should increase the impact of sustainability management on ESG operations because of its high legitimacy, which can effectively support sustainability efforts (Dhaliwal et al., 2012). Researchers have investigated the links between global equity indicators and the integration of companies with high ESG performance (Umar et al., 2020). A few researchers have investigated the impact of counterfeiting on the ESG performance of companies, arguing that satisfaction and improved ESG performance help them legitimize and overcome foreign debt at various scales, facilitating their entry into new markets (Stevens & Shenkar, 2012; Ramachandran & Pant, 2010). By adopting ESG procedures, firms of any rank can fulfill social prospects for protecting the environment, shareholders, and stakeholder interests (Del Bosco & Misani, 2016). This study introduced the magnitude of the socio-ecological system and the dominance of a robust approach to ensure that the potential impact of sustainability indicators (Deegan, 2002; Bassen & Kovács, 2020) on economic performance is realized in its entirety (Hummel & Schlick, 2016). Some scholars have elucidated that Islamic firms prevent environmental damage and support social empowerment (Azmi et al., 2019; Chowdhury & Masih, 2015; Qoyum et al., 2021a; Sairally, 2013). The essence of their discussion was that the Shariah test process did not have a specific standard to cover environmental and social issues (Ashraf & Khawaja, 2016). The financial performance of Islamic firms has also been studied (Qoyum et al., 2021b).

The size of CSR performance in ESG policy can contribute to the economic performance of organizations. The findings suggest that social performance has demonstrated significant economic improvement, and a small positive effect has been observed in environmental performance. At the same time, there is weak evidence of governance and economic activity relationships (Sila & Cek, 2017). Studies related to renaming reveal the positive impact of corporate involvement in public responsibility activities on innovation levels. Research introducing technological change rates can shape businesses (Shao & Lin, 2016). Time-dependent measurements have demonstrated consistent results for the ESG processes of companies in terms of their design capacity (Mastromarco & Simar, 2015). The COVID-19 pandemic has highlighted the link between humans, the planet, and benefits, especially those related to health, poverty, climate change, and the global financial system (Adams & Abhayawansa, 2021). There are concerns that businesses affected by the financial crisis caused by the pandemic may prioritize costly environmental policies and programs, undermining planetary survival (Amankwah-Amoah, 2020). Studies have demonstrated how the COVID-19 shock has contributed to the volatility of ESG indicators worldwide, including in the USA, Europe, China, and emerging markets. Low interaction intervals indicate potential ESG investment variability during a systemic pandemic such as COVID-19 (Umar et al., 2021). Expansion of ESG policy must be considered from the viewpoint of the latest technological developments; global epidemic news; and local, political, and religious issues. This can increase investor interest by motivating the decision to start or continue with ongoing business to maintain ESG standards.

In conclusion, it is important to overcome all the challenges faced by the companies to implement ESG, and the major one is to measure ESG performance. However, effective measurement of ESG is an uphill task because it needs tools, sensors, methodologies, data collection and analysis to understand the company's performance. In addition, different stakeholders of an organization have conflicting and contending standpoints. The data alone cannot guarantee business sustainability; therefore, the leadership needs further steps to create a learning environment for developing new skills, competencies, and flexibility both in the ecosystem and among the workforce. First, an organization should train employees in data literacy skills because it is a crucial step for intelligent and sustainable operations and can help to develop tailor-made digital options for customers and society, even for developing countries. In parallel, the organization's leadership should also consider ecosystem development through learning from existing data, literature and experiences. Therefore, working together for transparency and traceability improvement using blockchain and Internet of Things technologies can help to implement ESG effectively.

6 Future importance and perspective of ESG

Although several publications have presented various aspects of ESG, many should be considered in future studies. The ESG considerations reflect five key areas: (1) constancy, comparison, and quality of related metrics; (2) confirming compliance with financial reporting; (3) measuring the ESG disclosure platform and ratings for all; (4) transparency and comparative analysis of recognized ESG rating agencies and indicators; and (5) communication by ESG product labeling (Boffo & Patalano, 2020). Policymakers can move forward with regulatory reforms to strengthen sustainable business processes in several ways, including taxes to clarify the definition, disclosure of ESG issuers across all business entities, disclosure of ESG funds, rating agencies, and rating disclosure (Brooks & Oikonomou, 2018; Oncioiu et al., 2020). To improve data acquisition and analysis, a greater focus on financial market contributors, policymakers, and other stakeholders is required to reinforce ESG performance. Mixed evidence relating to the relative performance of high-performance ESG portfolios compared to conventional groups increases the need to comprehensively evaluate how business stability is perceived in ESG ratings and data. Moreover, the blockchain-based platform can provide better data interoperability, maintain privacy and eliminate transparency risks as tested in health care organizations (Abbate et al., 2022); therefore, it can be helpful in future studies.

Researchers have suggested an ESG bias favoring big businesses over small and medium enterprises (SMEs) (Orlitzky, 2001; Akgun et al., 2021). This is a key problem for SMEs because large companies can provide greater funds for reporting and communication services, helping improve their ability to produce consistent data and metrics. However, this bias and the barrier to unlocking valuable ESG data for small businesses cause market inefficiencies that affect estimated financial costs and reputation (Akgun et al., 2021). Removing this deficiency will ensure that SMEs worldwide can successfully access low-cost funding. Encouraging visibility and comparison of scoring methods and weights among providers of standard ESG ratings and indicators should be considered in future studies. The development of ESG processes requires significant international collaboration among policymakers, the financial industry, end-to-end investors, and other stakeholders who assist in shaping them. Although there has been progress in improving ESG processes by several ESG providers and regulators, this has emphasized the perseverance of maturity and a lack of comparative risk. More studies are required globally to confirm ESG progress without any market disintegration and to raise stakeholder confidence and market integrity.

7 Conclusion

This article summarizes ESG factors that affect businesses, including environmental sustainability, pollution and waste, greenhouse gas emissions, social factors, CSR, global pandemics, religion, gender, political influence, organizational structure, and ownership. Economic and administrative aspects include ESG disclosure, sustainable governance, governing body and business size, economic performance, restructuring and investment, corporate governance, internal and corporate employment, shareholder rights, stakeholder selection, and technical development. Research findings published in more than 80 articles were analyzed after a systematic review of the literature. This study contributes to the identification of sustainable business performance by reviewing several sustainability indicators. Economic, social, and governance concepts are widely used in the literature to analyze corporate sustainability. Increasing ESG adoption worldwide has proved its use in assessing business performance. There is evidence that ESG disclosure—environment, economic performance, and social sustainability—in the business sector can enhance the sustainability and performance of businesses. Religion has a profound effect on performance, as it has been revealed that firms labeled Islam work better for the environment and society but not for governance. The size of the governing body, board, and independent directors has a positive impact, whereas both women on the board and the CEO have a negative impact on ESG disclosure. High ESG investment variability was observed during the COVID-19 era. Adopting ESG policy outcomes enhances manufacturing capacity and the ability to pursue innovation, value building, and financial performance. Overall, social and environmental performance have demonstrated a positive relationship with economic stability, indicating the interdependence between business value and the building of a value society. The ESG bond (for all stakeholders) must be included as a competitive aspect of modern business. This review highlights important information gaps and exciting questions that have not yet been addressed, thus introducing a possible future research agenda for ESG. We also recognize that environmentally friendly processes and corporate social responsibility systems are receiving greater attention to find sustainable competing businesses in the future. On the other hand, shareholders, managers, and human rights play vital roles in determining ESG performance in developing countries. Therefore, managers should focus on these indicators to improve the efficiency and effectiveness of the firms. The sustainability points provided by various reference providers should be considered for a comparative analysis in future studies. Industrial segregation can lead to highly detailed results, another avenue for future research. Test methods can be used to collect baseline data from industries, and current research can be considered in the future to compare similar results.

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Declarations

Conflict of interest The authors declare no conflicts of interest.

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