





The role of leadership and organizational culture in sustainable investment decision-making

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ABSTRACT

The growing regulatory emphasis on sustainable finance has not translated uniformly into substantive changes in investments decision-making across financial institutions. This study investigates why similar regulatory pressures lead to different sustainability outcomes. It does so by examining the role of leadership styles and organizational culture as internal drivers shaping interest in the Sustainable Development Goals (SDGs), knowledge of sustainable finance, and by incorporating Environmental, Social and Governance (ESG) criteria into investment decision-making. Using a qualitative approach based on Fuzzy Cognitive Maps (FCM) and expert input from senior professionals in the financial sector, the study models the casual relationships between leadership and organizational culture in sustainable investment decisions in a highly regulated context. The main results highlight that authoritarian leadership facilitates initial compliance with regulatory requirements, while transformational leadership and adhocracy cultures promote a deeper and more strategic integration of sustainability. Furthermore, variables such as commitment, training, and reputation emerge as key mediators in the adoption of sustainable practices. The study contributes to the literature by demonstrating that sustainable finance regulation alone is insufficient to ensure meaningful sustainability integration unless it is internalized through specific leadership and cultural configurations. These findings offer relevant insights for financial institutions and policymakers seeking to promote credible, effective, and strategically embedded sustainable investment practices.

1. Introduction

In 2015, the United Nations introduced the 2030 Agenda in response to the growing environmental, social, and economic challenges facing contemporary societies. The agenda established 17 Sustainable Development Goals (SDGs), structured around the three core pillars of sustainable development: environmental protection, social inclusion, and governance. Conceived as a global action plan for the benefit of people and the planet, the 2023 Agenda implies a profound restructuring of the global economy toward a more sustainable trajectory (Pacto Mundial, Red Española, 2022). Within this global context, sustainability has become a central concern for organizations and financial markets alike. The adoption of sustainable practices is driven not only by regulatory requirements and market expectations but also by considerations of competitiveness and long-term value creation (Freeman et al., 2018).

Within the financial sector, the European Union has played a particularly prominent role in advancing this transformation by developing a comprehensive regulatory framework aimed at steering the financial system toward a more sustainable economic model. This effort has become a strategic priority (Hassan et al., 2024; Gholami et al., 2022). In line with these expectations, the European Banking Authority (EBA) published its Action Plan on Sustainable Finance in December 2019, outlining a roadmap centered on three key goals: directing investment toward sustainable activities, managing risks associated with climate change and other environmental impacts, and enhancing long-term transparency in financial reporting (EBA, 2019). These regulatory developments pose significant challenges for financial institutions, as they directly affect investment decision-making processes. Consequently, Environmental, Social and Governance (ESG) criteria have been increasingly integrated into risk assessment, project

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evaluation, and capital allocation practices. Many financial institutions have accordingly adapted their operating models, recognizing that ESG criteria not only contribute to risk mitigation but are also essential for ensuring the stability and sustainability of investments portfolios (Yu, 2023). In this context, sustainable investment plays a crucial role in achieving the SDGs (Caiado et al., 2018), although redirecting a substantial share of existing financial resources toward the goals of the 2030 Agenda remains a considerable challenge (Pacto Mundial, Red Española, 2022).

Drawing upon both institutional theory and legitimacy theory, sustainability has become increasingly relevant in the financial sector, significantly reshaping how organizations design strategies and make decisions. This transformation is driven not only by external regulatory pressure, particularly that originating from the European Union, but also by internal factors, such as leadership style and organizational culture (Ahsan, 2024). Within this framework, the relationship between leadership and organizational culture plays a critical role in the integration of the SDGs and ESG criteria into sustainable investment decision-making processes (Eccles & Klimenko, 2019). Leadership within organizations constitutes a key determinant in the effective implementation of sustainability strategies (Camelo & Nogueira, 2024). This is because leaders with a vision oriented towards sustainable development can foster organizational cultures grounded in ethical values, responsible innovation, and long-term sustainable investment approaches (Pless et al., 2021). What is more, embedding sustainability into the core operations of organizations requires a corporate culture that actively supports and reinforces such transformation. Accordingly, a comprehensive understanding of how regulation, leadership, and organizational culture interact is essential for the development of management models aligned with the SDGs and ESG principles. Against this background, the main objective of this study is to examine how leadership and organizational culture influence interest in sustainability (SDGs, ESG, sustainable finance), and how these factors, in turn, shape sustainable investment decision-making. Understanding these relationships is critical for the design of business strategies that prioritize sustainability while generating positive economic and social outcomes.

Although a substantial body of recent research has examined the external, regulatory, and financial determinants of ESG adoption and sustainable investment decision-making (Gholami et al., 2022; Saini et al., 2022; Yoo & Managi, 2022; Zhou et al., 2022), growing attention has been directed toward the role of internal organizational factors, particularly leadership and organizational culture. Prior studies have extensively explored the relationship between leadership styles and sustainability-related outcomes, including sustainable performance (Cuevas-Vargas, 2025; Kafetzopoulos & Gotzamani, 2022), employee green behavior (Mi et al., 2024; Wang et al., 2024), corporate social responsibility and financial performance (AlHares, 2025; Ahsan, 2024), ESG adoption and integration into business strategy (Ong et al., 2025; Zhang, 2025; Zhu & Huang, 2023), as well as decision-making processes and business continuity in sustainability contexts (Al Shraah & Alnsour, 2025; Kranisqi & Hajdari, 2024; Sulich et al., 2021). In parallel, organizational culture has been recognized as a critical enabler of sustainability-oriented outcomes (Dyck et al., 2019), particularly when aligned with leadership styles (Ahsan, 2024). However, despite these advances, limited empirical attention has been paid to the combined influence of leadership styles and organizational culture on sustainable investment decision-making (Al Aina & Faisal, 2024), particularly within financial institutions, where regulatory pressure, capital allocation and ESG integration intersect. This study, within the field of business management, seeks to address this gap by jointly examining leadership and organizational culture as internal drivers shaping interest in the Sustainable Development Goals, knowledge of sustainable finance, and the integration of ESG criteria into investment decisions. With these gaps in mind, the present research will focus on answering the following research questions (RQs):

RQ1: Does leadership influence the integration of sustainability

considerations, specifically interest in the SDGs, knowledge of sustainable finance, and the incorporation of ESG criteria into investment-decisions making within financial institutions?

RQ2: Which leadership styles exert the greatest influence on the integration of sustainability considerations, specifically interest in the SDGs, knowledge of sustainable finance, and the incorporation of ESG criteria into investment-decisions making within financial institutions?

RQ3: Does organizational culture influence the integration of sustainability considerations, specifically interest in the SDGs, knowledge of sustainable finance, and the incorporation of ESG criteria into investment-decisions making within financial institutions?

RQ4: Which types of organizational culture exert the greatest influence on the integration of sustainability considerations, specifically interest in the SDGs, knowledge of sustainable finance, and the incorporation of ESG criteria into investment-decisions making within financial institutions?

The novelty of this research lies in its holistic and integrative approach that combines the human dimension of leadership, the organizational-level cultural context, and the structural influence of European regulatory frameworks on sustainable investment decision-making. The study contributes to the literature on sustainable business practices by analyzing the interconnections among leadership, organizational culture and regulatory frameworks, while emphasizing their role as catalysts for organizational change. Moreover, the results underscore the critical importance of integrating sustainability criteria into investment decision-making processes, where leadership and organizational culture emerge as key success factors in promoting ethical business practices. An additional contribution of this research lies in the application of FCM to the field of sustainable finance. This methodological approach enables the graphical representation of complex relationships among qualitative variables, allowing expert knowledge to be modeled and used to analyze how leadership and organizational culture influence the adoption of sustainable financial practices, as well as to simulate alternative decision-making scenarios

Understanding these relationships also has practical implications. Leadership plays a vital role in inspiring and motivating employees toward shared sustainability objectives, while organizational culture shapes behavior, decision-making-processes, and overall organizational effectiveness. By clarifying the mechanisms through which leadership and organizational culture influence investment decisions, organizations can more effectively foster a culture of sustainability and enhance their environmental and social impact. Accordingly, this study offers valuable insights for both practitioners and policymakers seeking to promote sustainable finance and advance the integration of ESG principles into investment practices.

Following this introductory section, Section 2 reviews the relevant literature and examines the interrelationships among the key concepts. Section 3 describes the research methodology and its application. The results are presented in Section 4, followed by their discussion in Section 5. Section 6 outlines the theoretical and practical implications of the study, as well as its limitations and directions for future research. Finally, Section 7 sets out the conclusions of the study.

2. Literature review

From a theoretical perspective, various studies have emphasized the influence of regulation as an external factor that drives the transformation of the financial sector (Alhares, 2025; Wijaya et al., 2025; Al Aina & Faisal, 2024), the role of leadership as a catalyst for sustainability-related change, and the role of organizational culture as a system of values that guides internal behavior, and therefore, the integration of sustainability into investment decisions cannot be explained solely by regulatory requirements or formal structures. A comprehensive understanding of this phenomenon requires an integrative approach that considers the interaction between leadership, organizational culture, and regulation in sustainable finance. These three elements are

interconnected and together influence how financial institutions incorporate ESG criteria into their investment decisions.

2.1. Sustainability through the regulatory framework

This research underscores two theoretical perspectives that are fundamental for analyzing sustainability and investment decision-making: institutional theory and legitimacy theory. Institutional theory offers a valuable framework for examining how external forces—including regulations, social expectations, and sector-specific guidelines—shape the sustainability considerations of institutional investors and their investment choices (Alhamis, 2024). Legitimacy theory is defined by Suchman (1995) as “the generalized perception that an entity’s actions are desirable, proper, or appropriate within a socially constructed system of norms, values, beliefs, and definitions”. For instance, organizations that integrate sustainable practices tend to strengthen their perceived legitimacy among stakeholders and demonstrate conformity with wider societal demands (Alhamis, 2024). According to O’Donovan (2002), legitimacy theory posits that, in order to remain viable, firms must operate in accordance with the socially responsible behaviors expected by the societies in which they operate.

A substantial number of studies have attempted to establish a link between institutionalization mechanisms (Jennings & Zandbergen, 1995; DiMaggio & Powell, 1983), drawing on legitimacy theory to explain why firms disclose social and environmental information (Ding & Wang, 2025; Brown & Deegan, 1998). Previous studies have also indicated that regulatory frameworks not only enforce compliance requirements but also operate as institutional mechanisms shaping the adoption of sustainable practices and, in turn, stakeholders’ perceptions of organizational legitimacy (Khamisu & Paluri, 2024).

The development of a solid regulatory framework has been one of the main pillars supporting sustainable finance in Europe. The EU has played an important role by promoting a comprehensive framework aimed at aligning the financial sector with a sustainable economy. Within this effort, the European Green Deal (European Commission, 2019) stands out as a key initiative. It outlines the EU roadmap to achieve climate neutrality by 2050 and is a central component of the Union’s environmental-economic policy. It marks the transition to a regulatory model that integrates sustainability across all financial domains. Following the Green Deal, the EU introduced several regulations forming a coherent framework to align financial systems with environmental, social, and governance (ESG) objectives. The most significant are the EU Taxonomy Regulation (EU 2020/852), the Sustainable Finance Disclosure Regulation (SFDR) (EU 2019/2088), and the Corporate Sustainability Reporting Directive (CSRD) (EU 2022/2464). These set out new obligations regarding the transparency, reporting, and classification of sustainable activities with the aim of directing capital flows toward investments aligned with the SDGs (European Commission, 2020a).

The EU Taxonomy Regulation establishes a common classification system to determine which economic activities can be considered environmentally sustainable. Its goal is to provide the market with a shared language to support investment decisions aligned with the green transition (European Commission, 2020b). The SFDR requires financial market participants to disclose how they incorporate sustainability risks and factors in investment decisions. The CSRD, which replaces the previous Non-Financial Reporting Directive (NFRD), mandates disclosures based on the principle of double materiality, reporting both the impact of ESG factors on financial performance and that of corporate activities on the environment and society. It also imposes the use of standardized reporting rules and external verification.

For the financial sector, the CSRD implies structural transformation. Institutions must integrate sustainability into governance and risk management frameworks, improve the traceability of investments, and increase transparency regarding their alignment with the EU Taxonomy and SFDR disclosure requirements. The EBA has also contributed to this

effort with its Action Plan on Sustainable Finance (EBA, 2019), which defines three main objectives: redirecting capital flows toward a sustainable economy, managing climate-related financial risks, and promoting long-term transparency in financial and economic activities. These regulatory frameworks may require firms to adopt sustainable practices within their activities, since noncompliance can lead to legal sanctions as well as harm to their public image (Alhamis, 2024). In this context, regulation acts as a mechanism for institutionalizing sustainability within organizations, requiring an adaptation of structures, processes, and behaviors to meet the new expectations (Zilber, 2012). However, the actual impact of these regulations depends significantly on how they are interpreted and applied within each organization. Therefore, the role of leadership and organizational culture remains central, ultimately determining whether and how change occurs (Khan & Badulescu, 2025).

2.2. Leadership and sustainable decision-making

Leaders play a pivotal role in fostering innovation and responding to the demands of an increasingly dynamic business environment (Tayal et al., 2018). According to Tran (2017), leadership refers to the activities that leaders use when guiding their people to achieve corporate objectives. Consequently, leadership is a critical factor that contributes to organizational success by setting direction and achieving organizational goals, creating a vision, and mobilizing resources (Boeske, 2023).

Effective leadership is essential for the efficient functioning and long-term development of organizations, as well as for motivating employees and establishing coherent strategic missions and visions (Chen & Yan, 2022). In this regard, the evolution of leadership theories of leadership, from early trait-based approaches to contemporary frameworks, emphasizing adaptability, ethics, and contextual awareness, reflect a growing recognition of the multifaceted nature of effective leadership (Udin, 2024). From an institutional theory perspective, organizations operate as open systems, and managers’ leadership behaviors are shaped not only by internal dynamics but also by external contextual forces (Liao, 2022). Perceived external normative pressures influence managers’ sustainable leadership behaviors. To secure long-term social support and organizational legitimacy, managers tend to respond proactively to public expectations, positioning themselves as key contributors to social sustainability and assuming greater social and environmental responsibility (Liao, 2022). Within this framework, leaders play a crucial role in driving environmental initiatives and shaping sustainability strategies (Ullah et al., 2022), becoming a central force in advancing the triple bottom line perspective, balancing economic performance, environmental stewardship, and social responsibility (Elkington, 1998). Additionally, leadership plays a key role in promoting innovation and instilling accountability in relation to sustainability goals (Domínguez-Escrig & Mallén-Bronch, 2023).

Recently, management scholars have increasingly focused on understanding how leaders influence decision-making related to environmental sustainability (Mahran & Elamer, 2024). In this line, existing research has extensively examined the relationship between CEO characteristics and sustainability outcomes, including demographic attributes such as age (Oware et al., 2022; Sumarta et al., 2021), educational background (Khalid et al., 2022; Adomako & Amankwah-Amoah, 2021; Zhou et al., 2022), CEO duality (Peng & Zhang, 2022; Rezaee et al., 2020; Zhu et al., 2022), professional experience (Khalid et al., 2022; Wang et al., 2024; Shahab et al., 2020;), gender (Aabo & Giorici, 2022; Sumarta et al., 2021; Francoeur et al., 2020;) and political connections (Khalid et al., 2022; Huang et al., 2021). Additionally, psychological characteristics such as emotional intelligence (Ezzi et al., 2023), narcissism (Lin et al., 2022; 2021), humility (Sun et al., 2021), reflective capacity (Jia et al., 2021), managerial power (Fu et al., 2024; Al-Shaer et al., 2023; Velte, 2020), and overconfidence (Lee, 2021; Lee & Kim, 2021) have also been shown to influence sustainability-related decisions. Despite these advances, relatively limited attention has been

paid to the role of specific leadership styles in shaping green initiatives. In response to this gap, recent studies have explored the relationship between leadership styles and sustainability-related outcomes, including sustainable performance (Cuevas-Vargas, 2025; Kafetzopoulos & Gotzamani, 2022), employee green behavior (Mi et al., 2024; Wang et al., 2024), corporate social responsibility and financial performance (AlHares, 2025; Ahsan, 2024), ESG adoption and integration into business strategy (Ong et al., 2025; Zhang, 2025; Zhu & Huang, 2023), as well as decision-making processes and business continuity in sustainability contexts (Al Shraah & Alnsour, 2025; Kranisqi & Hajdari, 2024; Sulich et al., 2021).

Leadership styles are generally conceptualized as characteristic behavioral patterns exhibited during the processes of directing, guiding, and motivating groups, which subsequently influence follower behavior (Piwowar-Sulej & Iqbal, 2023). In this line, various theoretical frameworks have explored how leadership styles impact individual behavior within organizational settings. According to Koveshnikov et al. (2020), who emphasize three different leadership traits -authority, benevolence, and charisma- there are three widely recognized leadership styles: authoritarian, paternalistic, and transformational, respectively.

Authoritarian leadership is characterized by a high level of leader control and an expectation of unquestioned obedience from subordinates (Harms et al., 2018; Zhang & Xie, 2017). This style is more prevalent in cultures with strong hierarchical structures and high-power distance acceptance. Although often associated with the “dark side” of leadership (Chiang et al., 2020), an authoritarian style remains common in contemporary global business organizations (Chiang et al., 2020). Leaders adopting this approach unilaterally dictate operational policies and require strict compliance with their decisions (Purwanto et al., 2020). However, when authoritarian leadership manifests itself as harsh or coercive behavior, employees may experience resentment, negatively impacting work attitudes and inhibiting the development of green behaviors (Wang et al., 2024). In such contexts, employees may be accustomed to merely following orders, perceiving restricted autonomy, particularly in environmental decision-making, which reduces their motivation to engage in sustainability initiatives (Hiller et al., 2019). Nevertheless, while most of the literature emphasizes negative outcomes (Mi et al., 2024; Wang et al., 2024), specific conditions exist in which this style can positively influence workgroup performance (Pizzolitto et al., 2023). For instance, it may be strategically employed to reduce ambiguity in situations requiring absolute compliance and minimal tolerance for error (Khuwaja et al., 2020), as well as during crises or in environments characterized by underperformance and resistance to change (Dove & Freeley, 2011). By prioritizing rigid regulations and performance goals, authoritarian leadership can facilitate rapid decision-making under critical circumstances, enabling efficient task allocation and the issuance of precise directives (Afzal & Tumpa, 2024). Supporting this view, Mi et al. (2024) suggest that authoritarian leadership may, under specific conditions, directly promote employee green behavior.

In contrast, paternalistic leadership involves the authority figure adopting a protective, almost familial role. It is defined as “a leadership style with fatherly kindness, strict discipline, and authority in an atmosphere of human rule” (Farh et al., 2008). This approach combines supervision with a genuine concern for the personal and professional well-being of employees (Tang et al., 2021). In sustainability contexts, this style may foster employees’ task-related green behavior through the mediating role of psychological ownership (Mi et al., 2024). The fundamental distinction between paternalistic and authoritarian leaders lies in the benevolent dimension of the former (Pizzolitto et al., 2023). Benevolent leaders take personal interest in their subordinates’ lives, identifying and fulfilling their needs through emotional intelligence and protective care (Khuwaja et al., 2020). When leaders demonstrate such a concern, and provide support, employees perceive their personal importance to the organization, responding with a sense of gratitude that is reciprocated through their work, ultimately promoting green

behavior (Wang et al., 2024).

Transformational leadership is defined by its capacity to inspire others by redefining values and objectives and encouraging teams to exceed their own expectations. This style promotes autonomy, personal development, and collective commitment through a shared vision. It has been consistently associated with enhanced organizational innovation, primarily through its capacity to foster autonomy, motivation, and a supportive climate for creativity (Cuevas-Vargas, 2025). Transformational leadership is especially effective during periods of change or innovation, as it encourages a culture of inspiration, talent development, and active participation in common goals (Bass & Avolio, 1994). Recently, this leadership style has garnered growing scholarly attention for its capacity to inspire organizational change, foster innovation, and guide firms toward sustainable development goals (Abbas, 2024). Specifically, transformational leaders stimulate creativity and innovation in the development and implementation of eco-friendly strategies (Dalwai et al., 2023). They also motivate and engage employees by fostering a sense of shared responsibility for sustainability goals (Abbas, 2024) and cultivate a collaborative culture in which employees feel empowered to share ideas related to sustainability-oriented innovation (Afzal & Tumpa, 2024). In this context, Piwowar-Sulej & Iqbal (2023) argue that the core elements of transformational leadership –engagement, empowerment, inspiration, and collective responsibility- are particularly effective in promoting sustainability within firms. Similarly, Udin (2024) highlights the prevalence of transformational leadership as a key driver of sustainable performance. As a result, transformational leadership exerts a substantial positive impact on employees’ sustainable performance (Jiang et al., 2017).

In the financial sector, leadership plays a pivotal role in shaping decision-making processes that integrate ESG criteria. This influence is reflected in institutional commitments to sustainable investment strategies, emission reduction goals, and the systematic incorporation of social and environmental indicators into project evaluation and capital allocation processes (Al Aina & Faisal, 2024). Accordingly, the existing literature consistently acknowledges that leadership styles significantly affect sustainable performance (Cuevas-Vargas, 2025; Kafetzopoulos & Gotzamani, 2022), as well as decision-making processes and business continuity in sustainability contexts (Al Shraah & Alnsour, 2025). Despite this broad consensus, there remains a notable gap in the literature regarding the specific effects of leadership on sustainable investment decision-making. Consequently, this study seeks to examine, from the perspective of finance experts, whether leadership influences the incorporation of sustainability criteria into investment decisions and to identify the leadership styles that practitioners, drawing on their professional experience, perceive as most appropriate for guiding such decision-making processes.

2.3. Organizational culture and sustainability

As Pless et al. (2021) argue, when leaders adopt a sustainability-oriented vision, they not only make responsible decisions at the strategic level but also influence the behavior of the entire organization. In doing so, they contribute to the development of an internal culture that supports sustainable change and organizational transformation. Consequently, leaders’ responsibility in encouraging green practices extends beyond mere compliance with environmental regulations. Rather, it involves actively fostering and embedding a corporate culture of sustainability across all areas of the corporation (Zhang, 2025). In line with this perspective, Udin (2024) suggests that the effectiveness of a given leadership style in driving sustainable performance may depend, among other contextual factors, on the prevailing organizational culture.

Organizational culture (OC) can be defined as the set of values, beliefs, and norms shared by individuals within an organization, which shape their daily behavior (Robbins & Judge, 2017). It acts as a filter that determines openness or resistance to change (Schein, 2010) of the

organization to new regulations (Linnenluecke & Griffiths, 2010). In the context of sustainability, culture can act either as a facilitator or a barrier to the integration of responsible practices, depending on its alignment with ethical, environmental, and social principles (Bertels et al., 2010). Among the various approaches used to analyze organizational culture, one of the most recognized is the Competing Values Framework (CVF), developed by Cameron and Quinn (2011). This model offers a clear classification of culture types and serves as a useful tool to relate cultural traits with key organizational aspects (Aichouche et al., 2022). The CVF is based on two main dimensions that form the basis of four types of culture (Figure 1). This figure illustrates a model that assesses organizational culture based on two key dimensions: internal maintenance versus external positioning and control versus flexibility. These dimensions constitute the four types of culture shown in Figure 1.

The horizontal dimension shows whether an organization emphasizes internal cohesion (integration and unity) alongside teamwork, or it prioritizes external competitiveness and market differentiation as measures of effectiveness. The vertical dimension illustrates whether an organization values control and consistency, or if it places a greater emphasis on flexibility and adaptability in order to achieve effectiveness. Each quadrant represents a type of organizational culture: adhocratic, hierarchical, clan and market, each of which responds to a different operating logic and shapes both the internal behavior of the organizations and their strategic approach to change (Chalmers et al., 2025; Cameron et al., 2022; Leal-Rodríguez et al., 2019; Cameron & Quinn, 2011).

Adhocracy culture, characterized by a strong external focus and a high degree of flexibility, promotes a dynamic, creative, entrepreneurial, and highly adaptive organizational environment. Organizations operating under this cultural orientation place a strong emphasis on innovation, experimentation, and risk tolerance, while prioritizing continuous learning as a key mechanism for adaptation to changing conditions (Cameron et al., 2022; Cameron & Quinn, 2011; Tellis et al., 2009). Due to its inherent flexibility, openness to change, and innovation-driven mindset, an adhocratic culture enables organizations to respond more effectively to uncertain and volatile environments (Machado & Davim, 2019). What is more, prior research associates adhocracy culture with stronger emphasis on a holistic approach to sustainable organizing, as well as with superior sustainability-related outcomes across multiple dimensions (Dyck et al., 2019). In line with this view, Linnenluecke & Griffiths (2010, p. 364) identify adhocracy as

the “ideal culture profile for corporate sustainability”, highlighting its capacity to support long-term sustainable transformation.

Hierarchy culture, consistent with its internal focus and stability orientation, emphasizes control, measurement, documentation, information management, and continuity (Quinn, 1990). This culture is associated with a stronger emphasis on financially sustainable organizing and with superior financial outcomes (Dyck et al., 2019). Accordingly, organizations characterized by a hierarchy culture tend to prioritize internal resources that are subject to reliable measurement and control (Dyck et al., 2019). However, such organizations are often characterized by limited information flows across managerial levels, a tendency to concentrate on information at higher levels, reduced flexibility, and increased rigidity (Alqudah et al., 2022). Consequently, hierarchical cultures, grounded in formalized structures and established rules, may constrain innovation and hinder adaptability, particularly in contexts that require dynamic responses to sustainability-related changes.

For its part, market culture, reflecting an external focus and stability orientation, emphasizes results, prioritizing competitiveness, productivity, efficiency, reputation, and success in relationships with customers and suppliers (Cameron & Quinn, 2011). It is associated with a more pronounced emphasis on ecologically sustainable organizing and better ecological outcomes (Dyck et al., 2019). Nevertheless, due to its strong outward orientation and heightened sensitivity to external stakeholder expectations, market culture may exhibit a particular strong emphasis on sustainability practices as a means of maintaining competitiveness and legitimacy (Graafland, 2018). In this line, Dyck et al. (2019) add that a market culture is associated with a greater emphasis on ecologically sustainable organizations and better ecological outcomes.

Finally, clan culture prioritizes the internal environment of the organization and is particularly attentive to dynamic issues related to human resources such as morale, cohesion, and commitment, and organizational mechanisms such as participative decision-making, positive treatment of employees, and effective governance (Quinn et al., 1996). This type of culture encourages a stronger willingness among enterprises to fulfill their social responsibilities (Xu & Guo, 2024), and fosters collaboration and a strong sense of belonging, resembling a family structure. Consequently, a clan culture is associated with a more considerable emphasis on socially sustainable organizing and better social outcomes (Dyck et al., 2019). From this view, Linnenluecke et al. (2009) found a positive correlation between a clan culture and a social

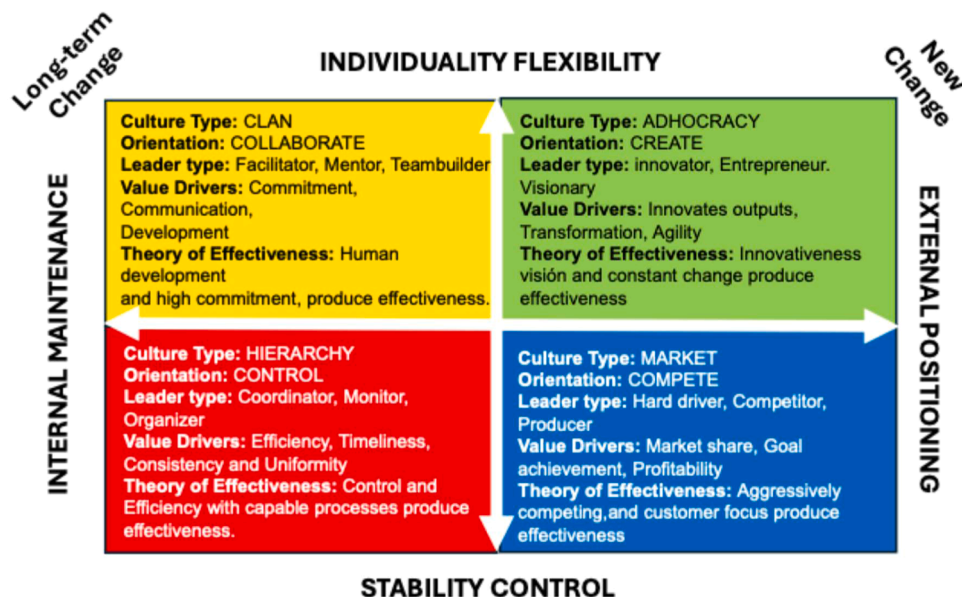


Figure 1. Competing Values Framework (Cameron et al. 2022).

understanding of corporate sustainability. However, its strong people-orientation may reduce innovation capacity (Leal-Rodríguez et al., 2019).

In sum, from the view of the Competing Values Framework (Cameron et al., 2022; Cameron & Quinn, 2011), organizational cultures differ significantly in their capacity to support the ESG criteria. On the one hand, adhocracy and clan cultures tend to facilitate ESG integration by encouraging innovation, collective learning, and collaboration. On the other hand, hierarchical and market cultures are more likely to adopt a reactive approach, prioritizing formal compliance with sustainability requirements over the substantive internalization of sustainability principles (Linnenluecke & Griffiths, 2010).

In the financial sector, organizational culture also plays a significant role in shaping investment decision-making processes (Eccles et al., 2014). However, despite this broad consensus, there is a research gap regarding which specific types of organizational culture exert the strongest influence on sustainable investment decision-making. Also, although organizational culture has been recognized as a critical enabler of sustainability-oriented outcomes (Dyck et al., 2019), particularly when aligned with leadership styles (Ahsan, 2024), a limited empirical attention has been paid to the combined influence of leadership styles and organizational culture on sustainable investment decision-making (Al Aina & Faisal, 2024). This is specially so within financial institutions, where regulatory pressure, capital allocation and ESG integration intersect. This study addresses these gaps by examining leadership and organizational culture as internal drivers shaping interest in the SDGs, knowledge of sustainable finance, and the integration of ESG criteria into investment decision-making. Figure 2 presents the theoretical framework proposed in this study.

3. Methodology

Quantitative research primarily focuses on predicting outcomes, whereas qualitative research seeks to understand underlying organizational processes rather than to forecast results (Lee, 1999). Qualitative methods provide rich contextualization and conceptual clarity, particularly for research questions related to organizational phenomena such as organizational culture and leadership style (Aboramadan et al., 2020). By offering thick, in-depth descriptions, qualitative research generates insights that are often difficult to capture through quantitative measures (Gephart, 2004), especially when examining complex organizational issues in real-world hospital management settings.

A FCM is defined as “a relational model map used to express

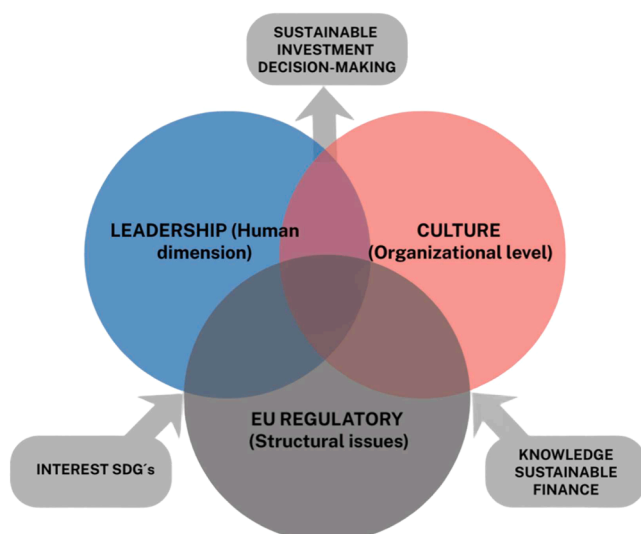


Figure 2. Theoretical Framework.

knowledge as a signed digraph and to infer cause-effect relationships among concepts” (Kosko, 1986). In parallel, Zadeh (1965) introduced fuzzy set theory to address the difficulty of accurately expressing opinions in situations characterized by uncertainty, imprecision, or ambiguity. Fuzzy set theory enables the use of fuzzy numbers to represent ambiguous data and supports mathematical analysis within fuzzy domains.

Compared with other modelling techniques, FCMs offer several notable advantages (Glykas, 2010; Salmerón et al., 2023):

- Flexibility: FCMs enable the intuitive and adaptable representation of complex systems. Their flexibility stems from the ability to integrate both qualitative and quantitative data through hybrid modelling and to represent cyclical structures; capabilities that many alternative approaches, such as mind maps or Bayesian networks, lack. As a result, FCMs can incorporate multiple factors and interrelationships, making them particularly suitable for modelling complex social science domains.
- Dynamic modeling: Unlike static methods, FCMs capture the dynamic nature of systems by incorporating feedback loops and iterative processes. This allows researchers to analyze system behavior across multiple iterations and under varying conditions.
- Uncertainty handling: FCMs are especially effective in managing the uncertainty and vagueness inherent in real-world systems. Through the application of fuzzy logic, they can represent imprecise or incomplete information more effectively than traditional Boolean logic models.
- Integration of qualitative and quantitative approaches: FCMs serve as a bridge between qualitative and quantitative analysis. As semi-qualitative methods, they assign fuzzy linguistic values or numerical weights to represent the strength and direction of relationships among variables.
- Visualization and communication: Although an FCM is fundamentally a mathematical construct, it can be represented visually, providing an intuitive depiction of complex systems. This visualization enhances communication and collaboration among experts by fostering a shared understanding of the system under investigation.
- Decision support: FCMs function as effective decision support tools for exploring the potential impacts of alternative decisions within complex systems. By simulating FCM behavior, decision-makers can evaluate the likely consequences of different courses of action prior to their implementation.

In this study, an FCM is applied by interviewing a panel of experts to represent and infer the cause-effect relationships between the variables considered.

As a dynamic model, the FCM allows for the simulation of future scenarios based on an initial state (C_{jt}). It generates successive state vectors (C_{jt+1}) until a point of equilibrium is reached, where influences stabilize and the impact of the initial stimulus on each node of the system is reflected.

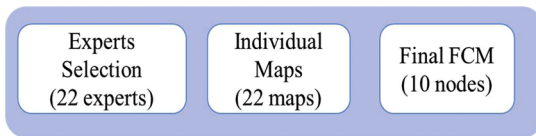
The FCM consists of a set of nodes (C_i) and the connections between them ($\omega_{i,j}$) (Xirogiannis & Glykas, 2004), which range from -1 to 1, indicating the cause-and-effect variables. The FCM serves a dual purpose: first, to transform subjective knowledge into a quantitative structure, and second, to evaluate different scenarios by posing “what if” situations. This makes it an ideal tool for analyzing the impact of different leadership styles and organizational culture on sustainable investment decisions. Figure 3 summarizes the phases of the study.

3.1. Selection of the expert panel

The selection of the panel for creating the FCM was based on their experience and knowledge in financial investments, requiring a minimum of fifteen years in positions of responsibility.

Regarding the panel size, some studies suggest a composition of 10 to

Phase I. FCM construction



Phase II. Simulation of what-if scenarios

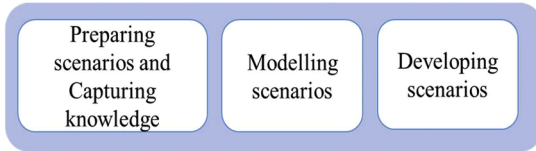


Figure 3. Phases of the study.

20 members (Okoli & Pawlowski, 2004). For this study, the panel consisted of 22 experts in financial investments from different financial private companies across Spain, which represents a strength of this qualitative analysis by reaching, and even surpassing, the maximum recommended number. Despite the robustness of the expert panel, the study’s methodological design is limited by its geographical focus on Spain. This restriction may reduce the applicability of the results to other countries with financial systems, regulatory environments, and market dynamics that differ from the Spanish context.

To ensure that participants were adequately prepared for the interview process, in-person, one-on-one briefing sessions were conducted at the outset of each interview. These sessions introduced the core elements of the FCM methodology, including the objectives of the interview, the expected outcomes of the exercise, the procedure for constructing an FCM, and its practical applicability. Key methodological considerations were also discussed to ensure a thorough understanding of the task. This preparatory stage was crucial for aligning participants’ understanding with the research objectives and for enhancing the quality and consistency of the data collected.

In addition, the participants were informed that their responses would remain anonymous and would be aggregated with those of other experts rather than analyzed individually. This measure was intended to mitigate social desirability bias and to encourage candid and unbiased responses. Finally, a second round of FCM development and refinement was conducted after the interviews were completed, allowing the participants to review and comment on earlier versions of the map. This iterative process facilitated the identification and correction of potential biases present in the initial responses.

3.2. Identification of preliminary nodes

Given that the objective of the study is to examine the influence of leadership style and organizational culture on interest in the SDGs and knowledge of sustainable finance, as well as their impact on considering sustainability-related aspects when making investment decisions, based on the opinions of the experts, a number of variables were identified in the literature to serve as preliminary nodes for the study. This is not an exhaustive list; the experts were encouraged to propose additional factors beyond those initially suggested. Prior to this, and to avoid any issues of interpretation, the experts were informed of the meaning of each node. As a result of this process, three additional nodes were added. The final FCM consists of 16 nodes (Table 1).

3.3. Construction of the FCM

The experts have created individual causal cognitive maps that represent their mental models (Jetter & Schweinfort, 2011). Each expert has reflected on the causal relationships between nodes and added the links they considered appropriate, along with the corresponding signs.

Table 1
Nodes of the FCM.

PRELIMINARY NODES	Node01: Authority	Authority. The attitude of someone who explicitly exercises the power they have over those around them (Karamitri et al., 2020).	L	
	Node02: Benevolence	Benevolence. The way of behaving and the character of a person that make them more understanding towards those around them, seeking well-being for themselves and others (Karamitri et al., 2020).	L	
	Node03: Charisma	Charisma. A natural quality that a person possesses that attracts individuals solely through their presence, actions, or words (Karamitri et al., 2020).	L	
	Node04: Nat_processes	Nature of processes: formal or informal. Formal processes are characterized by high degrees of stability, order, and control, while informal processes involve a higher degree of flexibility and autonomy (Leal-Rodríguez et al., 2019).	L	
	Node05: Strateg_app	Strategic approach: internal or external. It contrasts internal integration, which gives less attention to market changes, with external integration, which emphasizes adaptation to the environment (Leal-Rodríguez et al., 2019).	L	
	Node06: Interest_SDGs	Interest in SDGs: The organization's interest in aspects related to the SDGs.	L	
	Node07: Knowledge_SF	Knowledge in sustainability finance: Degree of knowledge within the organization regarding sustainable finance.	L	
	Node08: Sustain_invest.	Consideration of sustainability-related aspects (ESG - environmental, social responsibility, and corporate governance and regulation) when making investment decisions.	L	
	NODES ADDED BY EXPERTS	Node09: Aavailable_resources	Available resources refer to financial capital, human resources, equipment, time, and information that an organization can utilize to make financial investments.	P
		Node10: Engagement	Engagement: The level of involvement in the organization toward ESG aspects.	P
		Node11: Organiz_design	Organizational design refers to the process of shaping and structuring an organization’s roles, responsibilities, workflows, and systems to effectively achieve its goals.	P
		Node12: Profitability	The ability of an investment to generate profit, indicating financial success.	P
		Node13: Public_policies	Government strategies, laws, or regulations designed to facilitate sustainability investments.	P
		Node14: Reputation	The collective perception or regard for an organization shaped by past actions, behaviors, and communications.	P
		Node15: Supervision	The act of overseeing and guiding the activities or performance of an organization to ensure investments are completed effectively and in accordance with set standards.	P
		Node16: Training	The process of developing or enhancing skills, knowledge, or competencies in the organization about sustainability finance.	P

L: Literature review P: Panel of experts.

Weights have been assigned to each relationship using a 7-point Likert scale, where 1 indicates a very weak causal link and 7 indicates a very strong causal link. The result has been 21 causal maps, which have been converted into 21 adjacency matrices containing the relevant information (Jouvenel, 2000). The values of the adjacency matrices have been transformed into values ranging from -1 to 1.

From the individual causal cognitive maps, and with the support of the FCMapper tool, the resulting FCM has been obtained to subsequently generate and analyze various scenarios. First, an augmented FCM was created using the arithmetic mean of the values collected from the individual maps (Ma et al., 2011). This additive method is widely used and has proven effective in minimizing discrepancies and improving the accuracy of the model. In this way, a unified augmented matrix was generated which, by using the average value, reinforces agreement among the experts' causal connections, resulting in a more comprehensive and accurate representation (Salmerón & López, 2012).

$$\omega_{i,j}^{Aug} = \frac{\sum_{k=1}^n \omega_{i,j}^k}{n}$$

3.4. Scenario modelling

The FCM proposed by the experts consists of 16 nodes (Table 1). The state vector allows the simulation of different scenarios, with each of the 11 nodes taking values between 0 and 1, indicating the absence or presence of each node in the established scenario (Maftei & Gerogiannis, 2016). Thus, each scenario can be represented as a vector with the following structure:

$$\text{Scenario } j = (n1j, n2j, n3j, n4j, n5j, n6j, n7j, n8j, n9j, n10j, n11j, n12j, n13j, n14j, n15j, n16j)$$

Where "n_i" indicates the value assigned to node "i" in scenario "j". The use of FCM as a simulation tool helps evaluate possible scenarios based on different leadership styles and organizational cultures in financial investment companies.

4. Results

The augmented FCM, which displays the relationships between all nodes, is represented by the augmented adjacency matrix, which in this case includes 26 relationships (Table 2).

The augmented adjacency matrix represents the final FCM. The first column and row represent the cause-and-effect nodes, respectively. The standardized effects range from 0.03 to 0.82, with the highest value representing the relationship between the strategic approach and the consideration of sustainability-related aspects when making investment decisions. From the experts' perspective, knowledge in sustainable

Table 2
Augmented adjacency matrix.

	Interest_ODS	Knowledge_SF	Sustain_invest.
Authority	0.59	0.59	0.58
Availble_resources	0.04	0.03	0.08
Benevolence	0.46	0.43	0.42
Charisma	0.50	0.51	0.56
Engagement	0.22	0.22	0.41
Interest_ODS	0.00	0.00	0.73
Knowledge_SF	0.00	0.00	0.80
Nat_processes	0.53	0.60	0.53
Organiz_design	0.04	0.03	0.06
Profitability	0.05	0.03	0.31
Public_policies	0.06	0.06	0.06
Reputation	0.09	0.08	0.23
Strateg_app	0.81	0.81	0.82
Supervision	0.13	0.12	0.18
Sustain_invest.	0.00	0.00	0.00
Training	0.07	0.08	0.07

finance and interest in the SDGs also influence the consideration of these factors in investment decisions. Regarding variables that reflect leadership characteristics, positive effects of similar intensity have been identified among authority, benevolence, and charisma on knowledge in sustainable finance, interest in SDGs, and the consideration of sustainability in investment decisions. Additionally, the experts have identified additional nodes as relevant in this context, offering an interesting roadmap for delving deeper into the understanding of this topic.

4.1. Scenarios preparation and capturing knowledge

The use of scenarios in an FCM allows for exploring how certain factors change under different conditions (Jetter & Kok, 2014; Schoemaker, 1995). In this study, scenarios have been employed to analyze how leadership style and organizational culture influence the incorporation of the SDGs, or more broadly sustainability, into investment decisions.

Using the representation scheme proposed in the scenario modeling section, initial state vectors can be defined for the three leadership styles considered (authoritarian, paternalistic, and transformational) by assigning values of 0 or 1 to the variables "authority," "benevolence," and "charisma" (nodes #1, #2, and #3), depending on their absence or presence.

Scenario "Authoritarian Leadership":

(1, 0, 0, n4a, n5a, n6a, n7a, n8a, n9a, n10a, n11a, n12a, n13a, n14a, n15a, n16a)

Scenario "Paternalistic Leadership":

(0, 1, 0, n4p, n5p, n6p, n7p, n8p, n9p, n10p, n11p, n12p, n13p, n14p, n15p, n16p)

Scenario "Transformational Leadership":

(0, 0, 1, n4t, n5t, n6t, n7t, n8t, n9t, n10t, n11t, n12t, n13t, n14t, n15t, n16t)

According to the Competing Values Framework (CVF), organizational culture can be categorized using two dimensions: nature of processes (node 04) and strategic approach (node #05). The CVF identifies four distinct organizational culture typologies based on these two dimensions:

- Hierarchy culture: Formal processes: High degrees of stability, order, and control (Node #04 value = close to 0). Internal strategic focus: Mainly focused on internal aspects, with less attention to market changes (Node #05 value = close to 0)
- Clan culture: Informal processes: High degrees of flexibility and laxity (Node #04 value = 1). Internal strategic focus: Mainly focused on internal aspects, with less attention to market changes (Node #05 value = 0)
- Market culture: Formal processes: High degrees of stability, order, and control (Node #04 value = 0). External strategic focus: Greater attention to market changes and an emphasis on adapting to the environment (Node #05 value = 1)
- Adhocracy culture: Informal processes: High degrees of flexibility and laxity (Node #04 value = 1). External strategic focus: Greater attention to market changes and an emphasis on adapting to the environment (Node #05 value = 1)

Therefore, we can model the following scenarios according to the type of organizational culture, where nodes #04 and #05 represent the formal/informal processes and internal/external strategic focus:

Scenario "Hierarchy culture":

(n1j, n2j, n3j, 0, 0, n6j, n7j, n8j, n9j, n10j, n11j, n12j, n13j, n14j, n15j, n16j)

Scenario "Clan culture":

(n1j, n2j, n3j, 1, 0, n6j, n7j, n8j, n9j, n10j, n11j, n12j, n13j, n14j, n15j, n16j)
 Scenario “Market culture”:
 (n1j, n2j, n3j, 0, 1, n6j, n7j, n8j, n9j, n10j, n11j, n12j, n13j, n14j, n15j, n16j)
 Scenario “Adhocracy culture”:
 (n1j, n2j, n3j, 1, 1, n6j, n7j, n8j, n9j, n10j, n11j, n12j, n13j, n14j, n15j, n16j)

Scenario Development

The process begins with the initial vectors set up in the previous section and concludes once the state vector has stabilized. The result is a final vector that includes the values of each node for each leadership style and organizational culture (Table 3).

Table 3 shows the values for interest in the SDGs, knowledge of sustainable finance, and the consideration of sustainability-related aspects when making investment decisions associated with the different leadership styles and organizational cultures.

5. Discussion

5.1. Leadership, organizational culture and sustainability

This study aimed to examine the influence of leadership and organizational culture on three key elements: interest in the SDGs, knowledge of sustainable finance, and the integration of ESG criteria into investment decision-making. The empirical evidence obtained highlights the significance of these factors as critical drivers in the adoption of sustainable practices across both business and financial contexts. These results are consistent with prior research, including the studies by Al Shraah & Alnsour (2025), Afzal & Tumpa (2024), Ahsan (2024) and Piwowar-Sulej & Iqbal (2023), among others. Ahsan (2024) conceptualizes leadership and organizational culture as valuable intangible

resources that enhance sustainable firm performance.

The main findings from the scenario simulations indicate that authoritarian leadership exhibits a strong correlation with the nodes (interest in SDGs, knowledge of sustainable finance, and sustainable investment decisions). These results diverge from the dominant perspective in existing literature, which largely identifies transformational leadership as the most appropriate style for the implementation of sustainability strategies (Zhang, 2025; Abbas, 2024; Afzal & Tumpa, 2024). However, the findings are consistent with studies suggesting that, under specific conditions, such as situations requiring absolute compliance and minimal tolerance for error (Khuwaja et al., 2020), as well as during crises or in organizational contexts characterized by underperformance and resistance to change (Dove & Freeley, 2011), authoritarian leadership can directly promote employee green behavior (Mi et al., 2024). This evidence suggests that, although traditionally associated with rigidity and control (Harms et al., 2018; Zhang & Xie, 2017), this authoritarian leadership may prove more effective when sustainability objectives are clearly defined, operationalized, and closely aligned with regulatory requirements (Afzal & Tumpa, 2024). Accordingly, given that financial institutions operate with highly demanding regulatory environments that require the delivery of measurable sustainability outcomes, the effectiveness of authoritarian leadership in this context may stem from its capacity to enforce directives, ensure compliance, and allocate resources efficiently toward predefined sustainability goals.

In contrast with previous research (Mi et al., 2024; Wang et al., 2024), paternalistic leadership exhibited lower values across the key nodes, suggesting that it may be less effective than authoritarian leadership in promoting sustainable practices within the analyzed context. Conversely, the intermediate values associated with transformational leadership may be attributable to the longer time horizon typically required to generate deep and enduring organizational change, particularly within highly regulated financial institutions.

Table 3
 Results of scenarios simulation.

	Leadership Style			Organizational Culture			
	Authoritarian	Paternalistic	Transformational	Hierarchy Culture	Clan Culture	Market Culture	Adhocracy Culture
Node01: Authority	1.0000	0.0000	0.0000	0.5000	0.5000	0.5000	0.5000
Node02: Benevolence	0.0000	1.0000	0.0000	0.5000	0.5000	0.5000	0.5000
Node03: Charisma	0.0000	0.0000	1.0000	0.5000	0.5000	0.5000	0.5000
Node04: Nat_processes	0.5000	0.5000	0.5000	0.0000	1.0000	0.0000	1.0000
Node05: Strateg_app	0.5000	0.5000	0.5000	0.0000	0.0000	1.0000	1.0000
Node06: Interest_SDGs	0.8330	0.8142	0.8200	0.7540	0.8392	0.8735	0.9216
Node07: Knowledge_SF	0.8353	0.8117	0.8243	0.7492	0.8453	0.8698	0.9244
Node08: Sustain_invest.	0.9620	0.9545	0.9608	0.9332	0.9645	0.9744	0.9858
Node09: Aavailable_resources	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000
Node10: Engagement	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000
Node11: Organiz_design	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000
Node12: Profitability	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000
Node13: Public_policies	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000
Node14: Reputation	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000
Node15: Supervision	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000
Node16: Training	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000

Regarding culture, the results indicate that adhocracy cultures, characterized by flexibility, innovation, and adaptability, provide the most conducive environment for the integration sustainability, particularly within investment strategies. Their openness to change and experimentation fosters favorable conditions for embedding the SDGs and sustainable finance principles into strategic decision-making. These findings support the proposition advanced by Linnenluecke and Griffiths (2010), who identify adhocracy culture as the ideal organizational profile for achieving corporate sustainability. In contrast, hierarchical cultures exhibited the most moderate values across the key variables, suggesting, consistent with Dyck et al. (2019) and the arguments presented in the literature review (Alqudah et al., 2022), that rigid and highly formalized structures may constrain the levels of innovation and flexibility required to effectively address complex sustainability challenges.

Clan cultures, characterized by collaboration and strong interpersonal relationships, demonstrated a more positive effect on sustainability compared to hierarchical cultures. These results agree with studies that have shown that cultures oriented toward flexibility, such as clan and adhocracy, tend to be more receptive to sustainability because they promote change adaptation, organizational learning, and active participation (Xu & Guo, 2024; Linnenluecke & Griffiths (2010) and Linnenluecke et al. (2009)). These types of cultures not only facilitate the adoption of sustainable practices but also shape how organizations approach strategic decision-making, including investment-related decisions (Eccles et al., 2014).

However, market-oriented cultures, which emphasize performance, outperformed hierarchical and clan culture. These findings are consistent with Dyck et al. (2019); Graafland (2018) and Linnenluecke et al. (2009). This suggests that a strong results-driven orientation can align with sustainability, particularly when it is viewed as a competitive advantage.

5.2. Key variables in the adoption of sustainable practices: contributions from experts

In explaining the results, the expert panel identified several additional variables that, while not directly related to leadership or organizational culture, play a significant role in the development of sustainable investments practices. Among these, the availability of financial and technological resources emerged as particularly relevant. This finding is consistent with the literature, which emphasizes that the adoption of emerging financial technologies and the presence of adequate internal capabilities constitute key enablers of sustainable finance practices (Nefla & Jellouli, 2025). Furthermore, the organization's genuine commitment to integrating the SDGs into corporate strategy, as well as the systematic consideration of the social and environmental impact as a core component of investment analysis, aligns with previous studies demonstrating that the strategic integration of ESG and sustainability objectives significantly shapes sustainable investment practices in financial institutions (Koundouri et al., 2025). The use of ESG metrics and continuous training in sustainability further reinforce this strategic orientation.

Organizational design also emerged as a relevant explanatory variable. Rigid and highly bureaucratic internal structures may hinder an organization's capacity to adapt to change, thereby limiting the development of the dynamic organizational capabilities required to respond effectively to sustainability-related demands. Such structures can create both structural barriers and enabling conditions that shape strategic decision-making processes (Bocken & Geradts, 2020). Similarly, empirical evidence indicates that organizational factors, including design elements, can either facilitate or constrain the development of adaptive capabilities in sustainability contexts, reinforcing the need to reorganize processes toward more flexible and dynamic models that allow for faster and more effective responses in sustainable investment decision-making (Coffay et al., 2024). This transformation is also

influenced by public policy frameworks, as regulatory initiatives provide strategic guidance and reduce uncertainty in the pursuit of sustainability-aligned investments. In particular, the European Union's Sustainable Finance Action Plan illustrates how regulatory frameworks have significantly boosted the mobilization of private capital toward sustainability-oriented firms, demonstrating that public policy can guide and incentivize sustainable investment decisions by reducing informational and strategic uncertainty for investors (Boni & Scheitza, 2024).

Corporate reputation further emerged as a critical intangible asset with strategic value. Organizations perceived as responsible and genuinely committed to sustainability tend to build greater trust among investors and other stakeholders, which can translate into sustained competitive advantages. In this respect, research shows that strong ESG performance enhances corporate reputation, positively influences investor trust and stakeholder confidence, and ultimately supports competitive positioning and more informed investment decision-making (Nurhayati et al., 2025). Closely related to this dimension, supervision plays a central role in ensuring that stated sustainability commitments are effectively implemented. It also functions as a control mechanism that strengthens accountability and supports continuous improvement. A proactive, sustainability-oriented culture further reinforces internal coherence and external legitimacy, generating additional reputational and competitive benefits (Arduini et al., 2024; Gómez-Trujillo et al., 2024).

Training emerged also as another fundamental pillar in the successful implementation of sustainable investment strategies. The competencies of both employees and leaders are critical for translating sustainability objectives into effective organizational practices. In this regard, prior research indicates that training programs aimed at developing sustainability-related knowledge and skills are strongly associated with the successful implementation of corporate sustainability initiatives, as they help align individual competencies with organizational sustainability goals and enhance overall performance outcomes (Sult et al., 2024).

Finally, although sustainability inherently encompasses ethical, environmental, and social dimensions, investment decisions cannot be dissociated from considerations of profitability. Economic viability remains a decisive criterion for ensuring the continuity and scalability of sustainability initiatives. Research in sustainable finance consistently demonstrates that the integration of sustainability considerations into investment decision-making must be aligned with long-term profitability objectives to remain attractive and feasible for investors (Kumar & Paramaiah, 2024).

Overall, the discussion of results highlights that the adoption of sustainable investment practices in financial institutions is shaped by a complex interplay between leadership, organizational culture, and complementary organizational and contextual factors. The findings confirm that internal drivers are not homogeneous in their effects: certain leadership styles, such as authoritarian leadership, may prove effective under highly regulated and outcome-driven conditions, while transformational leadership appears more relevant for long-term cultural change. Similarly, cultural orientations emphasizing flexibility, innovation and external responsiveness, particularly adhocracy and market cultures, emerge as more conducive to sustainability integration than rigid hierarchical structures. At the same time, expert insights underscore that leadership and culture operate alongside other critical enablers, including resources, organizational design, regulatory frameworks, reputation, training and profitability considerations. This integrative perspective provides a nuanced understanding of how sustainability is operationalized in practice and sets the stage for deriving broader theoretical and practical implications.

6. Implications, limitations and future research lines

6.1. Theoretical and practical implications

This work contributes to the literature on sustainable business practices by analyzing the interconnections among leadership, organizational culture and regulatory frameworks, while emphasizing their role as catalysts for organizational change. Drawing on institutional theory and legitimacy theory, it suggests that formal rules do not automatically lead to effective behaviors unless they are internalized through organizational structures and culture. Moreover, the results underscore the critical importance of integrating sustainability criteria into investment decision-making processes, where leadership and organizational culture emerge as key success factors in promoting ethical business practices.

From an institutional theory perspective, regulatory-driven change, such as that associated with sustainable finance, does not follow a linear or uniform path. Instead, it is mediated by internal capabilities. According to Suchman (1995), organizations initially seek pragmatic legitimacy to avoid sanctions and access resources. Over time, however, they may evolve toward moral legitimacy by acting in accordance with socially accepted values. This transition occurs when regulatory discourse is internalized, reinterpreted, and adopted as part of the organization's strategic identity (Suchman, 1995).

From an organizational perspective, leadership is the lever that enables the cultural shift needed to address sustainability challenges (SDGs and ESG criteria) and leadership styles shape how organizations interpret and implement regulatory requirements. Transformational leadership has been shown to be important in promoting organizational commitment to sustainability. This type of leadership helps build a shared vision, grounded in common values and with a clear long-term orientation (Pless et al., 2021; Bass & Avolio, 1994).

In turn, organizational culture shapes how leadership is exercised or perceived, and it determines the openness of the organization to new regulations (Linnenluecke & Griffiths, 2010). Organizational culture functions as a filter that determines openness or resistance to change (Schein, 2010). Adhocracy and clan cultures, as defined in the Competing Values Framework (Cameron et al., 2022; Cameron & Quinn, 2011), tend to support ESG integration by encouraging innovation, collective learning, and collaboration. In contrast, hierarchical and market cultures may respond more reactively, focusing on formal compliance rather than a genuine adoption of sustainability principles (Linnenluecke & Griffiths, 2010).

However, in contexts with authoritarian leadership, regulations are often seen as external impositions, resulting in formal compliance rather than genuine integration of sustainable values. In contrast, in adhocracy cultures, the same regulations may be perceived as strategic opportunities. Therefore, authoritarian leadership may serve as an initial mechanism to guarantee compliance, whereas adhocracy culture allows these obligations to be internalized and transformed into genuine commitment. This transition strengthens sustainability not only as a regulatory mandate but also as an embedded organizational value.

The findings of this study also have important practical implications. One of the main challenges facing financial institutions is managing the sustainability transition in a coherent manner, avoiding a purely compliance-driven bureaucracy and instead advancing toward a form of sustainability that is strategic, integrated, and credible. Leadership plays a vital role in inspiring and motivating employees toward shared sustainability objectives, while organizational culture shapes behavior, decision-making processes, and overall organizational effectiveness. By clarifying the mechanisms through which leadership and organizational culture influence investment decisions, organizations can more effectively foster a culture of sustainability and enhance their environmental and social impact. Accordingly, this study offers valuable insights for both practitioners and policymakers seeking to promote sustainable finance and advance the integration of ESG principles into investment

practices.

The adoption of sustainable practices depends on a set of interrelated variables that jointly influence organizational decision-making. Resource availability, organizational commitment, internal structures, public policy, reputation, oversight mechanisms, training, and profitability emerge as critical elements for the successful implementation of strategies aligned with the SDGs. Consequently, integrating sustainability requires significant organizational adjustments within financial institutions, affecting decision-making processes, organizational culture, and the embedding of sustainability into core organizational values. Finally, insights provided by experts from financial organizations, through the identification of these additional variables and nodes, offer a complementary framework for interpreting the study's findings. Considered alongside leadership and culture, these variables support the development of strategies more closely aligned with the SDGs, thereby maximizing their impact on sustainability and sustainable investment outcomes.

6.2. Limitations and future research directions

This study presents several limitations that open avenues for future research. First, the analysis focuses on a limited set of leadership styles and organizational culture typologies. While these approaches provide a solid foundation for examining sustainable decision-making, future studies could extend the model by incorporating additional leadership styles, such as inclusive leadership (Farounbi et al., 2023) and ethical leadership (Khan et al., 2024), as well as alternative cultural frameworks that capture more complex and nuanced organizational dynamics.

Second, the geographical scope of the study is restricted to the Spanish financial context, which limits the generalizability of the findings to other financial systems characterized by different institutional and regulatory environments. Future research could replicate the proposed model in other countries to assess its external validity and to explore potential cross-national differences in the relationship between leadership, organizational culture, and sustainable investment decision-making.

Third, although the qualitative methodology based on FCM is well suited to capturing complex and interdependent relationships, it constrains the statistical validation of the identified relationships. Future research could complement this approach with quantitative and longitudinal research designs that allow for empirical validation, and the examination of how these relationships evolve over time.

7. Final conclusions

The European regulatory framework has played a decisive role in embedding sustainability structurally into the financial system. Regulations such as the EU Taxonomy (EU 2020/852), the SFDR (EU 2019/2088), and the CSRD (EU 2022/2464) have redefined standards for transparency, classification, and accountability in the sustainability domain (European Commission, 2020a). However, their effectiveness depends on how they are perceived and implemented by organizations, once again highlighting the mediating role of leadership styles and organizational cultures (Zilber, 2012). In the financial sector, where regulation plays a significant role, leadership tends to adopt a more instrumental than inspirational function. Sustainability in this context has emerged not as a matter of conviction but as a regulatory requirement, shaping access to capital, solvency, reputation, and possibly even operational continuity in the future. Within this framework, authoritarian leadership facilitates compliance by enabling a rapid and technically sound adaptation to external demands. This can be particularly useful in early stages to overcome internal resistance. Furthermore, an adhocracy culture, characterized by flexibility, innovation, and adaptability, provides the most conducive environment for the integration of sustainability, particularly within investment strategies. Therefore, the interaction between these three elements not only determines regulatory

compliance, but also the extent to which sustainability becomes a central investment criterion.

In sum, this study concludes that leadership, culture, and sustainability form a strategic triangle that significantly shapes investment decisions. Regulation functions as a cultural catalyst, with the aim not only to enforce compliance but also to create structural conditions for the emergence of a new or renewed organizational culture based on transparency, social responsibility, and the assessment of non-financial impacts.

Declaration of generative AI and AI-assisted technologies in the manuscript preparation process

During the preparation of this work the author(s) sometimes used ChatGPT, Google Gemini and Microsoft Copilot in order to improve the quality of the writing. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the published article.

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Data availability

This study is based on semi-structured interviews conducted with a panel of experts in financial investments from various private financial companies throughout Spain. In order to preserve the anonymity, the transcripts and notes cannot be deposited in a public repository or shared beyond the research team. For the same reason, interviews were not audio-recorded but documented through detailed field notes. Further clarification may be available from the corresponding author upon reasonable request, within the limits of confidentiality agreements.

Ethics and consent to participate

According to Spanish regulations and institutional guidelines, this type of study does not require formal approval from an ethics committee, as it does not involve vulnerable populations, medical interventions, or the use of animals in experimentation. Specifically, under the provisions of Article 19 of Law 14/2007 of Biomedical Research (Ley 14/2007, de 3 de julio, de Investigación Biomédica), ethical committee approval is mandatory only for biomedical research involving human health interventions. As this study exclusively involved interviews with professionals on organizational practices, it is exempt from mandatory approval. Full text available at: <https://www.boe.es/buscar/doc.php?id=BOE-A-2007-12945>

Informed consent was obtained from all participants prior to data collection. Participants were provided with an information sheet outlining the study objectives, voluntary nature of participation, and data confidentiality safeguards. Consent was obtained before the start of each interview. Participants were informed of their right to withdraw at any time without consequence.

The authors remain at the Editors' disposal to provide any additional clarification or documentation that may be deemed necessary.

CRedit authorship contribution statement

Yolanda M^a Pelayo-Díaz: Writing – review & editing, Writing – original draft, Methodology, Investigation, Conceptualization. **M^a Jesús Moreno-Domínguez:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Conceptualization. **Cinta Borrero-Domínguez:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Conceptualization. **Tomás Escobar-**

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Declaration of competing interest

The authors declare no conflicts of interest

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