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ESG-Driven Investment Portfolios: Integration and Impact

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Abstract
The purpose of this research is to explore the standards and methods for evaluating ESG performance and the trade-offs perceived between ESG objectives and financial performance. Analyze the inclusion of Environmental, Social, and Governance (ESG) factors in investment decisions. This paper aims to collect various approaches and consider them in terms of portfolio size and cash flow. The primary objectives are to determine whether applying ESG criteria enhances or diminishes financial performance, and to understand how investors perceive ESG characteristics in relation to their capacity to reduce financial risk. The report speaks to the challenges Canada has in making ESG more fully integrated. These issues include concerns over undermining international standards, financial implications, and data accessibility. The paper assesses investors' views on the credibility of ESG benchmarks as predictors of long-term success and the ability of ESG targets to be congruent with short-term performance.
Make use of a Partial Least Squares (PLS) model. The research tested five hypotheses related to ESG awareness, integration strategies and financial effects of ESG on investments. The report highlights the importance of understanding ESG standards, incorporating ESG strategies into investment approaches and addressing ESG implementation challenges. The study's structural equation model (SEM) evidences that ESG norms and practices exert a powerful impact on investment decisions and performance. This is indicated by the large path coefficients, implying that these variables all share a positive correlation. The findings support decision-makers to work toward more resilient portfolios, connect their financial goals with their sustainability goals, and get on with ESG integration. The findings are highly relevant for public policy, asset managers and researchers who are trying to navigate the evolving landscape of sustainable finance.

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Introduction

In the past few years, there has been a radical change in many areas of finance as ESG (Environmental, Social and Governance) factors are being increasingly integrated into investment-making processes. The move also comes as part of a general awareness that standard financial metrics are insufficient to determine whether investments will last — or, indeed, for how long brokers can charge clients unnecessary and concealed fees (Ahmad *et al*., 2024) [1]. Both institutional and retail investors know that including ESG criteria in their portfolios would give them a broader perspective of the risks and opportunities connected to their investment.

ESG is a broad umbrella that includes more than financial factors. Characteristics of environmental factors relate to a company's impact on the physical environment, including its carbon footprint, energy consumption and activities intended to alleviate or reverse the damage.

By way of example, social factors address the relationship a company has with employees, suppliers, customers, or even other stakeholders, as well as the communities in which it works (Zong & Guan, 2024) [23]. Governance factors look at the caliber of a company's leadership, diversity on its board, executive pay and audits / internal controls, plus shareholder rights. It aims to provide a more complete picture of the overall social and environmental impact and its resilience in these areas.

Till now, the visibility and comprehension of these factors amongst investors has been a crucial aspect of ESG integration. Investors must be aware of the ESG criteria, as investment solutions will depend on higher standards and judgment among these professionals in judging who are more or less related / material concerning performing financial results. The collective experience of investors in reading and talking about ESG terminology undoubtedly shapes the individual choices that make up a given approach to investment decision-making (Yu *et al*., 2021) [22]. While recognizing the individual factors of ESG that are most relevant to investment objectives, it also allows investors to do so.

As investors grow more aware of the importance of ESG criteria, they use different approaches to incorporate them into their investment activities. Closing Thoughts: In the end, one will need to further narrow the ESG category down by different strategies such as negative screening (exclusion of companies with poor ESG performance from a portfolio), positive screening (proactive selection criteria that help shareholders and clients find best-effort on board or better-practice performers) etc. Furthermore, confident investors may exercise active ownership by pushing companies in which they are invested to perform better on ESG measures. These tools and metrics to evaluate ESG performances — i.e., sustainability reports, ESG ratings, and third-party reviews must play a significant role in embedding such an approach into practice (Wiklund, 2023) [21]. The ongoing adjustments by investors in response to variations of ESG-related information also highlight the evolving nature of ESG integration within investment — that it is anything but static.

Whether ESG integration affects financial performance is a subject of great controversy and research. While some research indicates that integrating ESG factors can contribute to better financial results by selecting higher-quality companies, which are more likely to outperform over time, this view remains controversial — with tensions introducing noise and a wedge between short-term financial performance. Investors' perceptions about the financial realities of ESG integration are influenced by their past experiences and observations, as well as recent market trends. For example, businesses that rate highly for their ESG practices are assumed to be more adaptable in the face of regulatory pressure, market changes and potential reputational issues, which should help ensure longer-term success (Wanyan & Shang, 2022) [20]. Investors also want to understand how ESG performance affects their asset allocation decisions, the significance investors place on that relationship, and if/how they think about material risks associated with ESG factors.

With increasing attention to ESG integration, it is not uncommon for investors to face many obstacles that make it challenging to implement these criteria into their portfolios effectively. One of the main obstacles is that ESG data are only sometimes available and reliable. The absence of standardized measures and the inconsistency in ESG ratings across various providers can cause uncertainty for investors. Furthermore, cost hurdles — primarily related to ESG research and integration, i.e., the need for specialized tools/expertise—may significantly impact smaller investors. On top of this, external factors such as regulatory restrictions and market forces make the ESG intermingling a complete labyrinth (uz Zaman *et al*., 2021) [19]. All while grappling with misinformation and uncertainty about what best practices should be implemented for ESG reporting and assessment.

The perceived importance of ESG factors in investment decisions signifies a fundamental change in how investors see the connection between financial performance and sustainability. For other investors, ESG factors are viewed simply as elements of an all-around investment approach that can help to deliver sustainable returns over the long term. Such investors could place greater weight on ESG factors than traditional financial metrics to signal how well a company can shift operations to account for emerging risks or capture opportunities. Others see ESG factors as material, but not central to investment analysis; different portfolios will weigh the relevance of each accordingly (Barbieri *et al*., 2017) [2]. The changes in investor sentiment around ESG and the desire for those parameters to become mandatory parts of investment analysis over time speak to more significant market trends as sustainable finance continues its march.

This study aims to examine the integration of ESG by investors in their investment decisions and its impact on financial performance as well as asset sustainability. This study investigates the levels of awareness and understanding of ESG criteria, current strategies for integrating ESG into investments, the impact from investors' perspective on financial performance attributable results based on these issues as well, what barriers persist in connecting to actual adoption or integration within investment portfolios, and to establish how critical adopting an analysis of this nature within alternatives can be too. By surveying these investors, this research will shed light on how ESG integration is being implemented in practice and explore the underlying motivations and challenges faced by carbon-sensitive or philanthropically-motivated institutions.

The survey will help measure the degree to which investors are aware or understand ESG criteria, including their familiarity with what that means and how often they plan it into research when making investment decisions. It will also look into the source's investors use to understand ESG factors, such as reports read, and media and advisor interactions sought (Esrar *et al*., 2023) [4]. It is essential to understand these sides to determine how well-positioned investors are to integrate ESG criteria into their investment policies.

The research will also investigate how investors include such ESG factors in their investment decision-making. That includes looking at what tools and metrics they are using to measure ESG performance, how managers strike a balance between financial returns versus ESG priorities — or whether there is a trade-off required in the first place —and if fund/asset managers make changes on an incremental basis after learning more about environmental conditions. The study hopes to catalogue these tools and tactics, thus better illustrating the many paths through which investors incorporate ESG criteria—and perhaps even influence their choices.

Another central area of inquiry is how ESG integration

impacts financial performance. It will ask investors about their observations and experiences regarding the financial effects of ESG integration, specifically whether they have noticed any positive or negative impacts on how well their investments are doing in practice. It will also examine how investors evaluate ESG-focused investments in terms of risk and return relative to traditional investments and the influence of ESG performance on their asset allocation decisions within a portfolio. The study will also seek to understand investors' perception of how ESG factors can act as a source belt against financial risks and offer an understanding of the value they believe integrating ESG adds to building more resilient portfolios.

It also will look at some of the obstacles to ESG integration preventing investors from more deeply incorporating sustainability considerations into their portfolios, including difficulties associated with attaining data and expenses and extra-financial factors (such as regulations or market handicaps). The survey will explore how these constraints impact investors' capacity to include ESG aspects in their diversified portfolios and upon which methodologies they rely (Gandhi *et al*., 2018) [5]. This analysis is essential to identify possible avenues for improvement in integrating ESG practices. As input into efforts underway to develop help (in terms of mandates and tools), investors need to carry out this effective incorporation.

Lastly, the survey will assess perceptions of ESG materiality concerning investment decisions and how investors make trade-offs between ESG factors more generally: which they prioritize over traditional financial metrics, what is most critical for long-term benefits investing success, and cutting across these other inquiries — whether or not short-term performance outweighs considerations on shareholders material justice. The survey will also probe how investors have been changing their approach to ESG and whether it should be a compulsory part of investment analysis. This will shed additional light on this dialogue over the role of ESG factors in funding and whether sustainability can be achieved without financial performance.

The paper is a much-needed deep dive into how ESG factors are being incorporated, the obstacles and opportunities related to an integration response to these factors, as well as its implications for financial performance and sustainability (Li *et al*., 2023) [15]. The results will be relevant to a broad range of stakeholders (e.g. investors, asset managers, policy-makers and academics), helping them navigate the fast-developing sustainable finance landscape and guiding their efforts in blending financial profitability with broader social impact and environment welfare goals.

Literature Review

This is more evident than in the academic and practical study of incorporating ESG considerations into investor portfolios. Review the existing literature and focus on how well ESG criteria are integrated into investors' decision-making process, their impact (if any) on financial performance and current challenges.

Moreover, one has to start somewhere — one of those areas is investor knowledge and understanding of ESG criteria, said Addy. Many studies have also investigated how much investors know about ESG concepts and how that knowledge affects decision-making (Mascarenhas, 2018) [16]. Moreover, while awareness of ESG has grown significantly in recent years — it took a few decades to reach this point (ESG funds and investment options were first introduced nearly 30 years ago) there is still all manner of understanding at the deeper levels about each component within environmental social governance factors. Confident investors, especially those responsible for large institutional portfolios, have developed advanced knowledge of these factors and how they can relate to financial performance. Others, however, may have only a peripheral understanding — often enough to lean on third-party ESG ratings and indices rather than dig deeper into the metrics themselves. This variation in interpretation can result in conflicting ESG Integration approaches, where some investors may apply different percentage weights on E, S and G based on their clear understanding or data availability, while others find it difficult to incorporate these parameters with a significant difference only due to the lack of knowledge (Haddad *et al*., 2022) [7].

The sources from which investors seek information about ESG factors also influence their understanding and support of ESG integration. A recent exodus of institutional investors suggests a financial disconnect between the available ESG data and what matters to the market. Academic literature also points out that more ratings, sustainability reports or media coverage about environmental responsibility (e.g., carbon disclosure) without further verification may provide undue confidence for investment decisions based on social preference rather than risk opportunities. Despite the proliferation of these ESG scores, grading agencies provide information of varying quality and consistency, which makes it more difficult to weigh up materiality or relevance. Specific research underscores the need to directly interface with companies (e.g., via shareholder activism or corporate engagement) to garner more precise and sophisticated views on ESG practices (Hoang *et al*., 2023) [9]. This approach, through engagements, enables investors to shape corporate behaviour and simply receive deeper insight into how ESG factors are being managed at the operational level.

The methods through which ESG is incorporated differ vastly between investor types and asset classes. Several techniques have been discussed in the literature, such as negative and positive screening, that can identify a best-in-class5 along with more advanced strategies, namely ESG integration at fundamental level 6 and active ownership. Negative screening (the simple exclusion from a portfolio of companies with low ESG scores or operating in specific controversial sectors) is one of the oldest and most common approaches to ESG investing (KP & Nayak, 2017) [13]. Negative screening, a method used to bypass investments that do not achieve specific socially conscious or ethical goals, does work well in some cases; however, it has been diagnosed as removing parts of the investment universe and may exclude companies on their way toward better ESG practices. In contrast, positive screening and best-in-class selection aim to uncover companies which perform well in ESG terms compared with other firms. This strategy enables investors to incentivize best practices in sustainability, inspiring stewardship within sectors. The difficulty, though, is to find those real leaders as measurement around the ES and G can be somewhat inconsistent between companies or subject to various interpretations (Lee *et al*., 2016) [14]. Other investors consider ESG from a fundamental analysis angle, incorporating those factors into their work and evaluating the downstream financial effects of potential material concerns for companies. This method is a resource-intensive process that requires an in-depth understanding of ESG issues and

financial analysis, and it will thus be used primarily by large institutional investors.

Another tactic that has gained popularity in the past several years is active ownership, which includes shareholder engagement and proxy voting (Nguyen *et al*., 2023) [17]. This approach empowers investors to use their capital markets power by pushing companies toward better ESG practices and holding them responsible for their sustainability promises. The impact of active ownership depends on how successfully an investor can communicate with set company management and whether or not they would heed their shareholders. Insights from the research also suggest that active ownership can drive positive changes in corporate ESG practices, but it takes time and a well-defined engagement approach;

Whether ESG integration may impact financial performance has been debated in the literature. One view is the possibility of a positive association between ESG integration and more robust financial return. At the same time, another believes it is more nuanced with potential conflicting trade-offs against short-term performance. According to research, companies with good ESG practices generally show a lower risk profile, greater operational efficiency and – in many cases – superior long-term financial performance, as illustrated by various empirical studies (Hagen *et al*., 2019) [8]. Nowhere is this more apparent than in the environmental and governance legs of ESG, such as regulatory compliance, resource efficiency, and board effectiveness, which have obvious outputs on financial performance.

However, the social part of ESG has proven harder to connect directly with financial performance. However, other variables that matter, such as worker well-being or diversity and community relations, are more closely related to financial returns. What the data point to is that the importance of social factors — convenient abstraction though they may be in our current reality constrained by rapid change— lies, perhaps invisibly, further downstream (as investments), where companies which are mature or prioritize governance may have a slight edge in terms of attracting and retaining top talent, ensuring customer loyalty over competitor focus hellbent on consistent shareholder pay-out at any cost even when contests and regulatory changes come their way. This is critical for investors trying to balance short-term financial performance and longer-term value creation.

There are many obstacles to implementing ESG in their portfolios, though the interest — and recognition of its importance on both systematic competitive advantages and risk levels is only growing. ESG data is one of the biggest challenges. Because there are no standardized measures, and ESG ratings can vary widely by provider focus (environmental or governance), it is tough for an investor to get a reliable overview of how any company truly performs concerning these standards (Comoli *et al*., 2023) [3]. This issue is further exacerbated by the fact that certain companies may not disclose enough of their ESG practices — especially in emerging markets (which are a big part of our investment universe) — contributing to data coverage holes. This indicates a need for better ESG disclosure standards and more robust methodologies to prove the performance of those lines.

Research and implementation costs

ESG integration is resource-intensive, which can impede the ability of some smaller investment managers to fulfil their fiduciary duty. A detailed and exhaustive ESG analysis requires specialized tools and knowledge that can be more expensive for smaller or resource-constrained investors. Moreover, the price of interacting with firms on ESG matters (with active ownership, e.g.) can be high and too heavy regarding the performance of investors with extensive diversified holdings. Partly, this is because of the more profound quality and governance in the companies that ESG-focused investors prefer. However, some studies argue that enhanced returns on long-term sustainable performance compensate for extra expenses (Schulte & Hallstedt, 2018) [18]. One of the obstacles some investors encounter is that ESG research and implementation can be costly in terms of upfront implementation of a business model.

Outside pressures, such as regulatory bodies and market dynamics, further form the trajectory by including ESG factors in investment decisions. There is a fast rhythm in the maturation of ESG disclosure and reporting standards, with new ones being introduced worldwide. While this is ultimately an attempt to deliver enhanced transparency and accountability, it can also present investors with several problems, especially those operating in multiple markets, each with unique rules governing investor protection (Ghobakhloo *et al*., 2024) [6]. However, there is a wider appreciation for how ESG factors can help understand the company's longer-term potential. Many investors regard ESG factors as crucial as they help identify companies best positioned to compete successfully in a world challenged by threats such as climate change, social inequality and corporate governance – which have an increasing impact on financial performance. Investors like these may prioritize ESG factors over traditional financial metrics—citing them as signs of whether and how well or poorly companies are positioned to face new risks (warm temperature levels are key here), vulnerabilities (such as lawsuits) and opportunities.

Other investors may choose to be more balanced, considering the significance of these considerations about short-term financial performance or other factors. This approach acknowledges the actual state of things and accepts ESG risk as a part of the investment process, realizing that these metrics should be compared with financial ones to have an overall picture of what one is going into. Literature suggests this balanced approach to be most useful in sectors where the link between ESG issues and financial performance is weaker or when the impacts of such factors are difficult to quantify (Kaiser, 2020) [10].

ESG factors have become increasingly critical in investment decisions driven by movements in investor sentiment, regulation and market factors. These trends have led to several attempts to define contact requirements with increasing available ESG data, institutional investors' growing influence, and the rising demand for sustainable investment products. This has, in turn, driven a greater focus on ESG integration within investment approaches and towards more multifaceted ways to measure the performance of companies from an ESG perspective (Khan & Faisal, 2023) [12].

In sum, integrating ESG factors into investment portfolios marks a meaningful change in how investors consider the need to balance financial performance and environmental impact. Here, we summarize what has been learned from the existing literature on ESG integration, including some of its key strategies and challenges, and discuss their implications for ESG performance to lay a foundation that can guide further research and practice within this rapidly growing area

(Khan, 2019) [11]. Challenges to investors grappling with the complexities of ESG integration underscore a requirement for improved data, methodologies, and understanding of how ESG factors are situated in terms of financial performance.

Research Methodology

For the application of PLS model focused on ESG factors in investment decisions, where it could develop hypotheses based on relationships among the constructs provided. The initial sample size of the respondents was 350 where after screening 316 valid responses taken for the study Here are five potential hypotheses:

1. Awareness and Understanding of ESG Criteria → ESG Integration Strategies
1. Hypothesis: Greater awareness and understanding of ESG criteria positively influence the adoption of ESG integration strategies.
2. Awareness and Understanding of ESG Criteria → Perceived Importance of ESG Factors in Investment Decisions
3. Hypothesis: Investors with a higher awareness of ESG criteria perceive ESG factors as more important in investment decisions.
4. ESG Integration Strategies → Impact of ESG on Financial Performance
5. Hypothesis: It showed us that ESG integration has a positive financial performance.
6. Barriers to ESG Integration → ESG Integration Strategies
7. Hypothesis: Obsolescence of new technology barrier negatively influences the adoption of ESG integration strategies
8. Perceived Importance of ESG Factors in Investment Decisions → Impact of ESG on Financial Performance
9. Hypothesis: Greater perceived relevance for ESG factors when making investment leads to improved financial performance.

In other words, these are possible causal relations between the variables include in PLS analysis. These can be tailored to fit the particularities of survey data and objectives

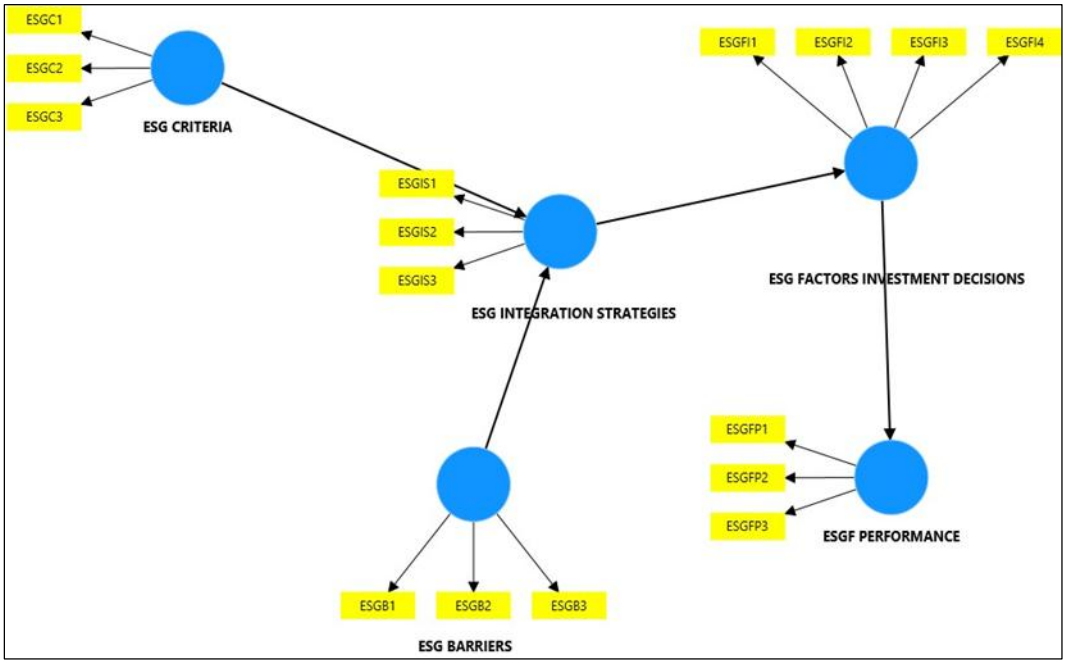

Fig 1: ESG Investment Framework

Framework of Proposed Model

This graph provides a conceptual framework for understanding the relationships between ESG standards, ESG integration policies, ESG variables and investment decisions, and, ESG performance. Essential components:

- **Standards for ESG Evaluation:** The official designation for the environmental, social, and governance factors used in investment terminology is. Examples include carbon emissions, human rights, and corporate governance practices.
- **ESG Integration Strategies:** Below are many methods by which ESG integration may be implemented in the investment process. This pertains to thematic investing, which focusses on enterprises and sectors where an ESG emphasis is particularly pertinent.
- **ESG Factors:** These are specific variables connected to ESG, such as ESG risks and opportunities, that may influence investment decisions.
- **Investment Decisions:** Investors choose the allocation or reallocation of money based on ESG criteria, methodologies, and considerations, therefore assessing the potential of the assets under consideration.
- **ESG Performance:** The achievements or outcomes achieved by enterprises or investments concerning their ESG policies and impact. Connections:
- **Influences ESG Factors, Investment Decisions, and ESG Criteria:** The incorporation of ESG elements into investing choices is contingent upon ESG Integration Strategies.

  ESG factors influence financial performance and investment decisions on ESG.
- **Investment Decisions:** Allocate resources and endorse firms with superior ESG standards to enhance the ESG performance of a company.

- **ESG Barriers:** Constraints faced by the investor in effectively incorporating ESG into their strategies and/or selecting investments based on alignment with the principles of Impact Investing.

The concept posits that understanding and incorporating ESG criteria into investing processes, together with assessing ESG consequences, enables investors to more equitably capitalize on financial opportunities while generating positive social and environmental outcomes.

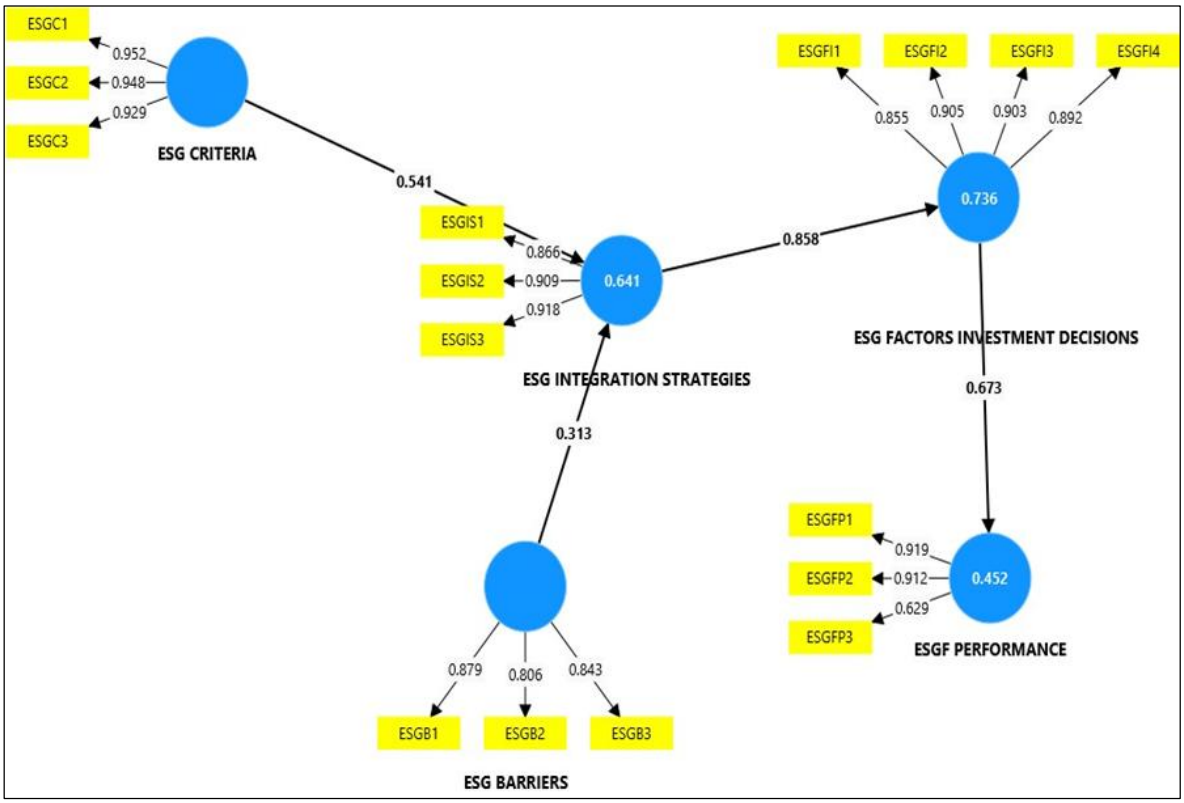

Fig 2: Structural Model of ESG Implementation Dynamics

Data Analysis:

The graphic illustrates a structural equation model (SEM) that delineates the interconnections among ESG criteria, ESG integration techniques, ESG variables, investment choices, and ESG performance.

- ESG Criteria: These are the distinct environmental, social, and governance issues used in investing choices. These comprise ESGC1, ESGC2, and ESGC3.
- ESG Integration Strategies: These refer to the many methodologies used to embed ESG factors within investing processes. These include ESGIS1, ESGIS2, and ESGIS3.
- ESG Factors: These are the particular ESG-related elements that might impact investing choices. The entities include ESGFI1, ESGFI2, ESGFI3, and ESGFI4.
- Investment Decisions: These refer to the decisions made by investors about the selection or liquidation of assets, predicated on their evaluation of ESG criteria, techniques, and variables.
- ESG Performance: This denotes the outcomes or results attained by firms or investments concerning their ESG policies and effect.
- ESG Barriers: These are elements that impede the proper execution of ESG integration plans and restrict investors' capacity to incorporate ESG criteria into their decision-making processes. These comprise ESGB1, ESGB2, and ESGB3.
- ESG criteria directly impact ESG factors and investment decisions.
- ESG integration strategies immediately impact ESG factors and investment decisions.
- ESG factors directly affect investment decisions and ESG performance.

ESG barriers significantly impact ESG integration strategies. Path coefficients: The figures on the arrows indicate the magnitude and orientation of the correlations among the variables. A path coefficient of 0.952 between ESGC1 and ESGFI1 indicates a robust positive correlation, signifying that an increase in ESGC1 corresponds to an increase in ESGFI1. Negative path coefficients indicate inverse correlations.

The model indicates that ESG criteria, integration techniques, and variables significantly influence investment choices and ESG performance.

- ESG obstacles may impede the successful execution of ESG integration strategies and restrict investors' capacity to incorporate ESG factors into their decision-making processes.
- By comprehending and addressing ESG criteria, incorporating ESG considerations into investment methodologies, and evaluating ESG factors, investors can make informed decisions that foster favorable environmental and social results while simultaneously attaining financial gains.

Results

Table 1: ESG Path Coefficients Summary

	Path coefficients
ESG BARRIERS -> ESG INTEGRATION STRATEGIES	0.313
ESG CRITERIA -> ESG INTEGRATION STRATEGIES	0.541
ESG FACTORS INVESTMENT DECISIONS -> ESGF PERFORMANCE	0.673
ESG INTEGRATION STRATEGIES -> ESG FACTORS INVESTMENT DECISIONS	0.858

Interpretation of Path Coefficients

There is a great deal of information to be gained from the route coefficients in Table 1 about the influence of ESG integration on investment decisions. By serving as standardized measures that display the significance and direction of factors' impacts on each other, they develop a more comprehensive view of how ESG concerns actually interact with each other.

There is a moderate correlation between the ESG integration approach and ESG problems (r = 0.313). Barriers tend to trigger the adoption of ESG practices because firms are required to enhance and build their ESG system as a result of these limitations. This illustrates the approach of resilience: utilizing problems as opportunities for longer-term integration.

For integration processes, ESG factors are significant, with a correlation coefficient of 0.541. For companies concerned about a broad spate of environmental, social and governance issues, the odds are far higher that they will include ESG criteria in their investment strategies. This is evidence that aligning strategy with ESG principles is a deliberate result of acknowledging larger responsibilities, not an unintended one. The largest association between ESG-integrating avenues and ESG-dedicated investment options was 0.858. That goes to show how important integration techniques have become when it comes to turning ESG issues into actual investment strategies. Companies that actually do incorporate ESG into their plans may happen to make decisions that are good for the economy and society.

The strong correlation (0.673) between ESG performance and ESG-based investment decisions proves that ethical investment really does work. ESG-focused decisions will not only enable businesses to meet their social and environmental objectives but can also drive measurable performance improvements. Results indicate that long-term value creation in finance and the environment is contingent on eliminating impediments, emphasizing ESG standards, and reinforcing integration practices.

Table 2: ESG Total Effects Matrix

	Total effects
ESG BARRIERS -> ESG FACTORS INVESTMENT DECISIONS	0.269
ESG BARRIERS -> ESG INTEGRATION STRATEGIES	0.313
ESG BARRIERS -> ESGF PERFORMANCE	0.181
ESG CRITERIA -> ESG FACTORS INVESTMENT DECISIONS	0.464
ESG CRITERIA -> ESG INTEGRATION STRATEGIES	0.541
ESG CRITERIA -> ESGF PERFORMANCE	0.312
ESG FACTORS INVESTMENT DECISIONS -> ESGF PERFORMANCE	0.673
ESG INTEGRATION STRATEGIES -> ESG FACTORS INVESTMENT DECISIONS	0.858
ESG INTEGRATION STRATEGIES -> ESGF PERFORMANCE	0.577

Understanding Total Effects in the Table

Table 2 displays total effects in an SEM, which are estimates of all the pathways by which variables are related, both directly and indirectly. This global perspective allows us to find direct connections as well as indirect influence, which are transmitted through other parts of the system.

The research finds that ESG constraints have a significant impact on the overall strategy, whether they are perceived as problems or not. Integration strategy has a slight effect on the investment in ESG, with the total effect of 0.269. What that means in practice: Troubles not just trouble businesses, but force them to up their ESG game and that, indirectly, affects where investment funds go.

Regarding the overall impact of barriers (0.313) on ESG integration strategies, this direct effect indicates that no mediations exist. This establishes a direct chain from problem to short-term strategy — in other words, there is no need for intermediaries. However, there is a clear effect on ESG performance here, direct and indirect (0.181). This is a demonstration of how concerns influence choices and strategies, which then affect results.

The net impact of ESG rules illustrates just how important they are in promoting responsible investment. Criteria have an impact on strategy adoption and generate real-performance gains with a direct overall effect of 0.464 on ESG factor investment and 0.312 on ESG performance. Making ESG issues more visible is crucial to mainstream sustainability in basic decision-making, as substantiated by the direct influence on integration strategies (0.541).

ESG investment choices had the highest impact on ESG performance, with a total effect of 0.673. This direct, one-to-one linkage is how ESG factors can have a big, immediate impact on performance when they are used to inform decisions. The integration approach also has a big impact on the decision (0,858), and this result reflects the importance of this aspect to ensure that ESG leads to profitable investments.

The aggregate impact of the integration approaches on ESG performance (0.577) illustrates that they contribute to shifting outcomes and that there may be an indirect positive effect via investment decisions. This two-sided relationship demonstrates why one needs the concept of frameworks. They are intermediaries of ESG impact and ESG intent.

The compounding effects paint a more complete picture of how ESG functions. Investment choices are the best predictors for success; integration methods are useful; criteria are rules; and obstacles often turn into complete catalysts.

Together, these approaches create a clear structure for considering how ESG factors can both create short-term and long-term benefits.

Table 3: Construct Reliability and Validity Measures

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
ESG Barriers	0.797	0.804	0.881	0.711
ESG Criteria	0.938	0.942	0.96	0.889
ESG Factors Investment Decisions	0.912	0.918	0.938	0.79
ESG Integration Strategies	0.88	0.885	0.926	0.807
ESGF Performance	0.772	0.856	0.867	0.691

Understanding Cronbach's Alpha, Composite Reliability, Average Variance Extracted (AVE), and Construct Validity

It is important to have construct validity, that the latent variables in a structural equation model (SEM) actually measure the theoretical constructs of interest. Table 3 illustrates the strength of the measurement model by providing strong evidence that all of its components are consistent and reliable.

Alpha values of Cronbach's α vary between 0.772 and 0.938, indicating a high internal consistency among the items categorized in each of the constructs. Given that all values exceed the minimum threshold of.7, the indicators may be considered as reliable measures of their corresponding latent variables.

The reliability is further supported by the composite reliability values (rho_a and rho_c) from 0.804 to 0.942. The results demonstrate that the structures are estimated both accurately and consistently, regardless of how they are estimated. The measuring model is so stable that there is very little random error.

The Average Variance Extracted (AVE) of these constructs is within the limits between the values of 0.711 and 0.960, which are much higher than the threshold value of 0.5. It shows that the observable outcomes of each idea explain a substantial amount of its variance, which is strong evidence of convergent validity.

The values of the composite reliabilities, AVE, and Cronbach's alpha for the model are high enough to support the notion that the model is plausible. The indicators ensure that future structural comparisons are grounded on a theoretically valid and robust measurement model through the efficient alignment of related latent constructs.

Table 4: R-square Values for ESG Constructs

	R-square	R-square adjusted
ESG Factors Investment Decisions	0.736	0.735
ESG Integration Strategies	0.641	0.638
ESGF Performance	0.452	0.451

Understanding R-Square and Adjusted R-Square

The values of R-square and adjusted R-square are high, which is an indication that our SEM does a good job explaining things. Table 4 provides us with an idea of how well the model "fits" as derived from how much the independent factors explain the variance in the dependent constructs.

The investment decision model that uses ESG criteria is that with the greatest explanatory power (R-squared=0.736; R-squared adjusted=0.735). This demonstrates that ESG measurements and integration measures account for over 73% of the variance, indicating their significant role in generating investment decisions.

The model is satisfactory because the adjusted R-squared value is 0.638, and the R-squared value is 0.641, and the ESG Integration Strategy. The tailoring of integration solutions in enterprises is significantly influenced by both facilitators and barriers, as the joint effect of ESG dimensions and barriers explains around 64\% of the variance of this model.

The ESG performance model does not explain much, which is clear from the R-square of 0.452 and the adjusted R-square of 0.451. The influence of other internal or external factors on cross-border investment and integration could not be considered in the model, as the variation of performance is less than half-explainable by investment decisions and mode of integration.

The results show that the ESG rules, barriers and criteria provide a significant explanation of investment-related concepts, although a greater range of variables influence ESG performance. We should look to the theoretical and external environment when discussing whether the model is robust, despite what the statistical analysis says on one or two parts of the model in terms of measuring ESG performance.

Table 5: Model Fit Indices Summary

	Saturated model	Estimated model
SRMR	0.083	0.138
DULS	0.941	2.606
DG	1.284	1.637
Chi-square	1824.761	2053.687
NFI	0.686	0.647

Understanding Goodness-of-Fit Indices in SEM

The Goodness-of-Fit (GoF) indices of Table 5 describe the degree of the adaptation of an SEM to the observed data. The SRMR is a value that indicates the size by which the model's expected correlations miss the actual correlations on average. This saturated model's SRMR (0.083) is greater than the computed model's SRMR (0.138). While lower SRMR values could indicate a better fit, both values indicate a good model-to-data fit.

The d_ULS value indicates that the saturated model adapts the data better than does a model assuming no association (0.941 vs. 2.606). This demonstrates that the power of explanation is enhanced significantly by the saturated model. The saturated model has a lower d_G (1.284 rather than

1.637) (i.e., a better trade-off between fit and parsimony). This demonstrates that the model is more complex.

Chi-square values confirm this conclusion as well. The saturated model (1824.761) produced a chi-square score inferior to the model actually estimated (2053.687). This leads to a better model of the observed data. Chi-square should be reported along with other fit indexes, as it is sample-size dependent.

Normed Fit index (NFI) reveals that the saturated model (0.686) fits better than the estimated model (0.647). Finally, based on these indices, the saturated model gives in some sense the best trade-off between theoretical completeness and fit, although both models fit the data well.

Discussion

This research analyses how investors reconcile financial returns with ESG considerations, including strategies, methodologies, and challenges. The primary inquiry is whether investors believe that financial success and ESG integration can coexist without adversely affecting earnings. The study delineates the use of ESG problems within the financial industry to examine their impact on investment choices.

The emphasis is on the influence of ESG integration on financial performance. We examine investors' perspectives and empirical evidence about the impact of ESG on their portfolios, particularly whether it has enhanced or detracted from performance. The report also includes a comparison of risk and return between ESG-focused and conventional investments. ESG guidelines may safeguard portfolios from financial risks, enhancing their resilience. The research aims to elucidate the role of ESG in fostering long-term financial stability and sustainability.

The paper also addresses obstacles to investor adoption of ESG practices. Challenges include access to reliable ESG data, supplementary costs, regulatory constraints, and market inefficiencies. Comprehending these limitations helps in identifying areas for improvement and creating more efficient tools, platforms, and recommendations to encourage ESG practices among investors. The paper aims to elucidate these limitations and provide solutions for incorporating ESG concerns into traditional investment methods.

One key area of focus is ESG materiality: whether and how investors price in response to signals driven by ESG attributes acting simultaneously with conventional financial metrics. The research examines how investors turn towards short-term financials versus long-term ESG goals for what we now know about the role of sustainability in inquiries about good investment outcomes. In the investing debate over the necessity of including ESG in research and strategy, it is a story about how slowly investors' thinking on sustainability is changing when it comes to determining financial success.

This research is purely based on the fundamentals related to ESG criteria, integration approaches and factors, investment decisions and performance. Carbon emissions, corporate governance or human rights are all ESG factors which can determine an investment. Some methods to integrate ESG criteria can be: screen out companies with bad ESG performance and also give priority to those displaying high level of sustainability in certain segments.

Investment decisions involve risks and opportunities that are affected by ESG factors, i. e. environmental, social and governance elements ESG investors select assets for their portfolios based on ESG standards and metrics. ESG initiatives are actions done by enterprises or investors and ESG performance is the results of these actions. ESG criteria influence ESG aspects and investment choices; whereas, ESG strategies prioritise these elements. And these connections are complex and fluid.

The research revealed that ESG restrictions, such as data accessibility and expenses, influence ESG integration strategies. These issues seem to prompt investors to use more robust ESG decision-making strategies. A significant correlation exists between knowledge of ESG criteria and the adoption of integration techniques, indicating that investors are more likely to include ESG factors into their strategies as their understanding of their importance increases.

The research quantifies ESG criteria, integration methods, ESG elements, investment options, and performance via a structural equation model (SEM). The route coefficients enhance and guide these interactions, illustrating how ESG knowledge amplifies ESG integration methods. ESG factors significantly impact investment decisions, indicating that investors who prioritize ESG criteria associate their portfolios with companies or assets exhibiting superior ESG performance.

This study analyses the general implications of all the above-mentioned factors for understanding their direct and indirect interactions. ESG challenges impact investment decisions directly or indirectly through ESG integration techniques. Indeed, this complex relationship highlights the necessity of tackling direct and indirect obstacles such as regulation and improved tools and frameworks to promote ESG integration. For determining the construct reliability of the model, we use Cronbach's Alpha for internal consistency, Composite Reliability and Average Variance Extracted. With these two measures means ESG criteria, integration types, factors and investment selection as well as performance are logical and reliable. This strong base lends these findings strength.

This evaluation evaluates the explanatory power of our model — using metrics like R-squared and adjusted R-squared. The results for the variance in ESG factors, investment decisions, and integration methods show that the model explains a good amount of this data, which suggests that variables which are important to investors has been captured. However, the model explains less than half of the variance in ESG performance provisioning for a possible influence from other potential factors impacting on ESG outcomes.

We examined the goodness-of-fit indices for both the saturated and estimated models to get a sense of model fit. The model fit indices supported a good model fit, however, the superior performance of SRMR and chi-square in saturated models. The model captures the foundational relationship between ESG criteria, strategies, factors, investment actions, and outcomes but requires additional inputs to increase granularity.

The research sheds light on how investors leverage ESG factors when they are making their picks. This research provides an in-depth look at the integration of ESG within finance by comparing tools and approaches, financial performance perceptions, barriers to full implementation as well; it is also the first study that tries to cover all major players from several segments of the industry. The results bear relevance to investors, asset managers, policymakers and academics navigating the changing financial landscape of sustainability. It highlights the importance of better toolkits, information and frameworks to embed ESG into investment processes and recover some of the financial

benefits that ESG integration can provide.

Conclusion

Taking these indices into account, the saturated model fits slightly better than the expected model. The good fit indices for the 2 models suggest they adequately represent the associations between data variables. These indices should be interpreted with theoretical and substantive interpretations in order to evaluate the model fit.

As demonstrated in the report, investors utilize instruments and metrics to measure ESG performance. The objective here is to determine whether respondents view financial performance and ESG objectives as complementary or competing. This research explores how fund managers and asset managers learn over time about the context of ESG factors, and traces the ways through in which they integrate ESG considerations into their investment decision-making processes.

The research seeks to ascertain the impact of ESG integration on financial performance. Investors will be interrogated over the impact of ESG integration on their investments. The analysis will also investigate how investors assess the risk and return of ESG-focused investments in relation to traditional investments, as well as the impact of ESG performance on portfolio asset allocation. This study will investigate whether ESG factors mitigate financial risks and enhance portfolio resilience. This will elucidate how ESG yields financial and sustainability advantages.

The study will analyze data availability, costs, and external non-financial factors, including regulatory challenges, to identify barriers to further ESG integration. The research examines these limitations to ascertain how investors surmount them and enhance ESG integration. The results may guide regulations and instruments to aid investors in incorporating ESG aspects into their portfolios.

The research investigates how investors evaluate ESG factors in their investment decisions and how they balance them against conventional financial metrics. The study will investigate the primary factors that investors prioritize for long-term success and assess if short-term performance is more significant than ESG considerations. The research may clarify whether ESG should be mandated in investment analysis by assessing the evolution of investors' ESG strategies over time, therefore contributing to the sustainability discourse in finance.

This research will contribute to the growing corpus of knowledge about ESG integration, its obstacles, and its effects on financial performance and sustainability. The findings may captivate investors, asset managers, policymakers, and academics. The research will facilitate navigation of the rapidly evolving terrain of sustainable finance by examining how investors might reconcile financial viability with social and environmental objectives. The components of ESG were examined using the Partial Least Squares (PLS) model to formulate five hypotheses. Understanding ESG criteria should enhance the acceptability of ESG integration strategies. Enhanced ESG awareness may motivate investors to prioritize ESG factors in their investment decisions. Secondly, the use of ESG integration methodologies may enhance financial performance by embedding ESG principles inside investment strategies.

The research claimed that challenges related to regulation and data prevent the use of ESG strategies. Hypothesis four: ESG factors are good for financial performance — at least for those investors the care about it. Causation implied: Theoretical basis that a relationship exists between ESG norms/strategies and financial performance.

This framework encompasses the relationship between ESG criteria, methodologies and their integration processes, attributes, subsequent investment choices/markets and performance. By definition, environmental, social and governance standards are supposed to factor into both investment decisions and ESG components. Negative screening and thematic investing ESG integration methods have an impact on the way ESG factors are integrated in investment strategies. The upshot, as it were, is that ESG considerations can sway investments and ESG performance— so serves to show their gentrified relationship.

The research also discovered potential legal or commercial barriers to ESG adoption. These obstacles interfere in the investors' integration of ESG factors into decision-making. However, if they can overcome such challenges, then investors have the chance to invest in a way that both benefits the environment and society makes sense financially. This study suggest that it is imperative for an investor to have clear understanding and focus on ESG aspects, along with meaningfully integrating practices which can enable the process of sustainable but profitable investment decision making.

The study employs a structural equation model (SEM) to understand the relationships among these variables. Path coefficients refer to the strength and direction of these relationships, with higher positive values reflecting stronger influence of ESG criteria on variables including investment selections as well as performance. The methodologies integrating ESG in decision-making are significantly correlated with ESG factors of investment, so companies with strong ESG strategies tend to make more decisions based on typology determined by the ESG plan and ESG performance is improved.

A complete effect is the mixture of an arrears and inhibitory within in the design. ESG challenges drive ESG performance via direct and indirect pathways, including implementation modalities. That is how ESG friction impacts performance, and why it should be overcome to perform well.

Cronbach's Alpha, Composite Reliability with average Variance Extracted (AVE) shows the constructs which are used in research valid and reliable. The above statistics suggest that both constructs are internally consistent in the dimensions underlying them and properly reflect their respective operational representations. According to this dependability indicators reported here, the values are expected to be of high scores; supporting the study results.

The goodness-of-fit indices demonstrate that the SEM model aligns well with the data. The estimated model provides valuable insights, despite the saturated model's higher goodness-of-fit metrics. Goodness-of-fit measures such as SRMR, dULS, and NFI indicate that the model effectively captures essential variable correlations while maintaining a balance between complexity and accuracy.

The research finishes by analyzing how investors use ESG factors to inform their investment choices. This study elucidates ESG integration and its impact on financial performance and sustainability by analyzing investors' instruments, metrics, strategies, and obstacles. The findings will inform investors, legislators, and other stakeholders on sustainable finance and underscore the need of reconciling

profitability with social and environmental goals.

Reference

1. Ahmad H, Yaqub M, Lee SH. Environmental-, social-, and governance-related factors for business investment and sustainability: a scientometric review of global trends. Environ Dev Sustain. 2024;26(2):2965-87. doi:10.1007/s10668-022-02789-1.
2. Barbieri F, Rajakaruna S, Ghosh A. Very short-term photovoltaic power forecasting with cloud modeling: a review. Renew Sustain Energy Rev. 2017;75:242-63. doi:10.1016/j.rser.2016.10.068.
3. Comoli M, Tettamanzi P, Murgolo M. Accounting for 'ESG' under disruptions: a systematic literature network analysis. Sustainability. 2023;15(8):6633. doi:10.3390/su15086633.
4. Esrar H, Zolfaghariania H, Yu H. Inventory management practices at a big-box retailer: a case study. Benchmarking Int J. 2023;30(7):2458-85. doi:10.1108/BIJ-03-2022-0182.
5. Gandhi S, Mosleh W, Shen J, Chow CM. Automation, machine learning, and artificial intelligence in echocardiography: a brave new world. Echocardiography. 2018;35(9):1402-18. doi:10.1111/echo.14015.
6. Ghobakhloo M, Mahdiraji HA, Iranmanesh M, Jafari-Sadeghi V. From Industry 4.0 digital manufacturing to Industry 5.0 digital society: a roadmap toward human-centric, sustainable, and resilient production. Inf Syst Front. 2024:1-33. doi:10.1007/s10796-024-10478-8.
7. Haddad CR, Nakić V, Bergek A, Hellsmark H. Transformative innovation policy: a systematic review. Environ Innov Soc Transit. 2022;43:14-40. doi:10.1016/j.eist.2022.03.002.
8. Hagen B, Zucchella A, Ghauri PN. From fragile to agile: marketing as a key driver of entrepreneurial internationalization. Int Mark Rev. 2019;36(2):260-88. doi:10.1108/IMR-10-2018-0286.
9. Hoang D, Kousi S, Martinez LF, Kumar S. Revisiting a model of customer engagement cycle: a systematic review. Serv Ind J. 2023;43(9-10):579-617. doi:10.1080/02642069.2023.2171352.
10. Kaiser L. ESG integration: value, growth and momentum. J Asset Manag. 2020;21(1):32-51. doi:10.1057/s41260-019-00148-y.
11. Khan AK. Impact of demonetization on outwards foreign direct investment of India - special reference to Asian countries. SUMEDHA J Manag. 2019;8(1):23-42.
12. Khan AK, Faisal SM. The impact on the employees through the use of AI tools in accountancy. Mater Today Proc. 2023;80:2814-8. doi:10.1016/j.matpr.2022.12.159.
13. KP ASR, Nayak N. A study on the effectiveness of inventory management and control system in a milk producer organisation. Int J Logist Syst Manag. 2017;28(2):253-66. doi:10.1504/IJLSM.2017.086264.
14. Lee SC, Su JM, Tsai SB, Lu TL, Dong W. A comprehensive survey of government auditors' self-efficacy and professional development for improving audit quality. Springerplus. 2016;5:1-25. doi:10.1186/s40064-016-2331-3.
15. Li CY, Fang YH, Chiang YH. Can AI chatbots help retain customers? An integrative perspective using affordance theory and service-domain logic. Technol Forecast Soc Change. 2023;197:122921. doi:10.1016/j.techfore.2023.122921.
16. Mascarenhas S, Oswald AJ. The success of free enterprise capitalist system when designed and deployed rightly. In: Corporate ethics for turbulent markets: the market context of executive decisions. Bingley: Emerald Publishing Limited; 2018. p. 119-53. doi:10.1108/978-1-78756-191-520181005.
17. Nguyen LT, Dwivedi YK, Tan GWH, Aw ECX, Lo PS, Ooi KB. Unlocking pathways to mobile payment satisfaction and commitment. J Comput Inf Syst. 2023;63(4):998-1015. doi:10.1080/08874417.2022.2161352.
18. Schulte J, Hallstedt SI. Company risk management in light of the sustainability transition. Sustainability. 2018;10(11):4137. doi:10.3390/su10114137.
19. uz Zaman Q, Wang Z, Zaman S, Rasool SF. Investigating the nexus between education expenditure, female employers, renewable energy consumption and CO2 emission: evidence from China. J Clean Prod. 2021;312:127824. doi:10.1016/j.jclepro.2021.127824.
20. Wanyan D, Shang T. Application of cloud technology in digital cultural heritage: an analysis of public culture cloud platforms in China. Digit Libr Perspect. 2022;38(2):222-36. doi:10.1108/DLP-03-2021-0022.
21. Wiklund S. Evaluating physical climate risk for equity funds with quantitative modelling–how exposed are sustainable funds? J Sustain Finance Invest. 2023;13(2):893-918. doi:10.1080/20430795.2022.2040238.
22. Yu Y, Zhang JZ, Cao Y, Kazancoglu Y. Intelligent transformation of the manufacturing industry for Industry 4.0: seizing financial benefits from supply chain relationship capital through enterprise green management. Technol Forecast Soc Change. 2021;172:120999. doi:10.1016/j.techfore.2021.120999.
23. Zong Z, Guan Y. AI-driven intelligent data analytics and predictive analysis in Industry 4.0: transforming knowledge, innovation, and efficiency. J Knowl Econ. 2024:1-40. doi:10.1007/s13132-023-01656-9.