

## **Executive compensation, sustainable business practices and firm performance: A systematic literature review and future research agenda**

### **Abstract**

**Purpose** - This paper provides the latest systematic literature review (SLR) of prevailing studies on the interrelationship among executive compensation, financial performance and sustainable business practices. This SLR is done in three parts: (i) examine the theories employed by previous studies; (ii) identify the unique variables employed by researchers in analysing this interrelationship; and (iii) explore potential opportunities for further study in the field.

**Design/methodology/approach** – This study conducted an SLR analysing studies from the Web of science, Scopus and EBCO in over 20 countries from 2009 to 2022 published in several top-ranked journals. We utilised various search strings using the key phrases “executive compensation”, “CEO Pay”, “financial performance” and “sustainable business practices”. The initial sample of 27,210 was filtered with our meticulous inclusion and exclusion criteria to produce a list of 161 studies.

**Findings:** Our findings are as follows: first, most studies encompassing this subject area lack multi-theoretical perspectives with agency theory being the most dominant theoretical viewpoint; second, we observed the use of monotonous quantitative research methods, with studies heavily lacking qualitative and mixed-method research approaches; finally, there is a palpable gap in cross-country studies.

**Originality:** This study contributes to the existing literature by conducting a comprehensive SLR that examines both the theoretical underpinnings and empirical evidence on this topic. It builds upon previous research and extends our understanding of the interrelationship among executive compensation, financial performance, and sustainable business practices.

**Keywords:** Executive Compensation, Firm Performance, Sustainable Business Practices, Systematic Literature Review.

**Paper type :** Literature review

## 1. Introduction

This paper employs a systematic literature review (SLR) to examine the interrelationship among executive compensation (EC), financial performance (FP) and sustainable business practices (SBPs). In reviewing the empirical literature, first, for each variable, the relevant theoretical framework will be discussed. Second, the applicable empirical literature concerning the variable will be considered, with focus on stressing the differences between existing studies and our study. Third, the gaps identified in the theoretical analysis and empirical findings will be discussed.

Primarily, we perform a comprehensive SLR with the view of updating extant research on EC, FP and SBPs. Distinctively, we examine the theories, empirical analysis and methodological procedures carried out by previous studies on the interrelationship among EC, FP and SBPs. The result of this study is very significant to a large variety of stakeholders. Specifically, the findings may be beneficial to firms' executives, investors, regulators, the government, environmentalists and other stakeholders.

Admittedly, a few SLRs have explored the relationship between: (i) EC and SBPs (Winschel and Stawinoga, 2019), and (ii) FP and SBPs (Fathihani and Saptura, 2022). To the best of our knowledge, our SLR process led us to identify that, there has been no SLR regarding the interrelationship among EC, FP and SBPs. Therefore, our paper is one of the foremost SLRs regarding this topic. Also, existing empirical research regarding the linkage between all three variables is inadequate, our preliminary SLR conditions led us to a noticeably diminutive shortlist of three reviewed articles (Adu *et al.*, 2022a; Haque and Ntim, 2020; Yu *et al.*, 2022). Figure 1 below provides an overview of the key findings of the study.

*Insert Figure 1 here*

Adu *et al.* (2022a), for instance explored the interrelationship among EC, CEO Pay, FP and market value; in line with our area of interest, employing actual and self-reported carbon performance as a component of SBPs. Investigating EC and SBPs, the authors observed that EC and CEO Pay have weak moderating impact on the link between actual carbon performance and market value. However, the authors showed that EC and CEO Pay contribute to understanding the self-reported carbon performance-FP nexus. Regarding FP and SBPs, the researchers established that actual carbon performance is adversely linked with FP, while self-reported carbon performance does not influence FP. Similar to Adu *et al.* (2022a) and, Haque

and Ntim (2020) also analysed the interrelationship among EC, environmental, social and governance (ESG), sustainable compensation policy, carbon performance and market value. In examining EC and SBPs, the findings of the two studies revealed that EC has a positive effect on process-oriented carbon performance but has no effect on actual carbon performance. Similarly, the authors demonstrated that for FP and SBPs, process-oriented carbon is also positively related to market value. Correspondingly, EC also aids in establishing the link between market value and process-oriented carbon performance. The third study, Yu *et al.* (2022) established that air pollution (the SBPs variable) negatively affects both executives' pay-performance sensitivity (the EC variable) and firm value (the FP variable).

Our review of studies in the previous section emphasised certain limitations which will be discussed in this section. Noticeably, there is lack of adequate research concerning the interrelationship among EC, FP and SBPs published in 2 rated and above in the Academic Journal Guide (AJG) 2018 by the Chartered Association of Business Schools (CABS). Also, none of the studies utilised qualitative or mixed-method approaches. For instance, 100% (3/3) of the studies employ quantitative research methods. However, the inclusion of qualitative method such as interviewing CEOs and other corporate executives of firms can add a different dimension to the analysis in this field. Secondly, 67% adopted a single theoretical approach with Haque and Ntim (2020), and Adu *et al.* (2022a) mainly employing neo-institutional theory. In a bid to address the limitations in the previous sections, we adopt a method of analysing the EC, FP and SBPs interrelationship in a three-subcategory manner to ascertain a wider view and expand SLR in this area. Guided by our preliminary search, there are adequate empirical and theoretical reviews of this in the various subcategories to facilitate the composition of our SLR.

Specifically, we aim to achieve our main goal through three key objectives. Due to the lack of SLR and high-quality review regarding the interrelationship of all three variables, our first objective is to investigate the relationships in three subcategories: EC, FP and SBPs which are distinct from previous SLRs. Secondly, this SLR explores the theoretical, empirical and methodological findings and limitations under the three subcategories. Lastly, accomplishing our preceding objectives will enable us to discover gaps in past literature and help in developing a future research agenda. Our SLR incorporating the subcategory analysis approach attempts to provide a solution to the survivorship bias of SLRs. To the best of our knowledge, this SLR covers a large dataset employed in reviews concerning EC, FP and SBPs.

The next section (2) outlines the methodology implemented in obtaining the SLR results; Section 3 reports the outcome of the SLR, while Section 4 highlights the limitations of past studies linked with suggestions for future research. Section 5 provides conclusion of the paper.

## 2. Methodology

In analysing the various methodologies employed by other studies on the topic of interest, we implement the three SLR step method initially outlined by Webster and Watson (2002), and Tranfield *et al.* (2003), and applied by Alatawi *et al.* (2023), Alhossini *et al.* (2021), Christoffersen (2013), Ibrahim *et al.* (2022), Lu *et al.* (2022) and Nguyen *et al.* (2020) within the corporate governance context. Adopting the SLR helps in assessing a vast scope of literature only significant to the research topic (Denyer and Tranfield, 2009). This method also enhances transparency and reproducibility, which helps in minimising errors and strengthening the acceptance of SLR in the research scope. Figure 2 below provides an overview of the SLR process.

*Insert Figure 2 here*

The initial step of the SLR was to establish the appropriate databases for obtaining past studies regarding the interrelationship among EC, FP, and SBPs. The foremost criterion was the reputation of the database, its scope (i.e., its inclusive range across various social science research areas and its global presence in terms of publications) and the quality of its publications, with emphasis on peer-reviewed studies. This criterion coupled with the authors' institutional database accessibility then led to the selection of 'Web of Science', 'Scopus', and 'Business Source Ultimate' (EBSCO) as electronic databases to acquire significant samples to review. The rationale for utilising multiple databases is to enable us to obtain broad coverage of papers as each database had certain papers missing, and thus combining the three enables us to attain a comprehensive list of papers as adopted by Nguyen *et al.* (2020), Ibrahim *et al.* (2022) and Lu *et al.* (2022).

The next step of the SLR involved identifying and developing appropriate keywords and phrases relevant to the research topic. Particularly, this involved a preliminary literature search on the papers' titles, abstracts and full texts using keywords associated with the primary study areas: "executive compensation" "sustainable business practices," and "financial performance" (Nguyen *et al.*, 2020; Alatawi *et al.*, 2023). Throughout this initial exploration, the authors frequently convened to deliberate and determine the most pertinent search terms to be incorporated into the final list of keywords and phrases (Tranfield *et al.*, 2003). The final keyword strings utilised in obtaining the list of studies are then presented in Table 1.

*Insert Table 1 here*

We then apply the first literature process (search) by Oates (2015) to the keywords to obtain our initial sample of studies. In searching for papers regarding these sub-three topics, we use keywords in the sources listed earlier to obtain the relevant studies. We follow the boolean search strategy adopted by Deku *et al.* (2019) and Alhossini *et al.* (2021) to the keyword strings appearing in the title, abstract, keywords or full texts in the databases stated earlier. The initial search involving articles published only in English language from 2009 to 2022 resulted in a sample of 27,210 articles.

Additionally, we establish the following inclusion and exclusion criteria to obtain the ultimate samples relevant to this paper; focusing only articles on the relevant subject fields such as accounting, finance, business, management and sustainable science-related areas resulted in excluding 2,897 articles. With the assistance of RefWorks, a citation management website, we further eliminate 221 articles due to duplication. This was accomplished through the use of the software's duplication-finding tool, which scans and finds duplicate entries based on title, author, and publication year criteria. Following the works of Alhossini *et al.* (2021), Lu *et al.* (2022) and Nguyen *et al.* (2020), the articles were further screened by subject to the AJG 2018 by the CABS as presented in Table 2. Similar studies (eg., Massaro *et al.*, 2016; Stuart *et al.*, 2022) in accounting literature acknowledge the significance of targeting the top journals in a given field of research to ensure the reliability and high standard of SLRs (Snyder, 2019). In addition, Linnenluecke *et al.* (2020) recommend authors of SLRs to take into consideration the search tactics of similar reviews when deciding on their own search tactics. Leveraging the CABS list as a guide during the literature search then ensured that the studies incorporated in this review adhered to the fundamental standards of quality and reliability as globally recognised in scientific research (Alatawi *et al.*, 2023; Ibrahim *et al.*, 2022; Lu *et al.*, 2022; Nguyen *et al.*, 2020). The inclusion and exclusion criteria are summarised in Table 2 and Table 3, respectively.

*Insert Table 2 here*

Finally, we leverage the 'Full View' mode in RefWorks for a more in-depth screening process. In this mode, RefWorks displays the full abstracts of each paper, allowing for a thorough examination of their content. The abstracts were examined to exclude to exclude

‘false positives’ in the instance where an article contains some of the keywords used in the search process, but it is an unrelated topic (Linnenluecke *et al.*, 2020). This facilitated a meticulous review of the abstracts of the papers to ensure that the remaining articles conformed to our inclusion criteria, which mandated that each study must examine at least one of the following relationships: EC and FP, EC and SBPs, and FP and SBPs. The final sample list of 161 involved only papers that examined the interrelationship of EC, FP and SBPs as their main variables. The selected papers were then downloaded, and the full texts were examined. In order to catalogue the papers for further analysis, the descriptive information (i.e., title of paper, author(s), year of publication, journal name and geographical scope of studies) was captured using Microsoft Excel as applied by prior research in the field (Alhossini *et al.*, 2021; Lu *et al.*, 2022; Nguyen *et al.*, 2020).

Further analysis included a thorough systematic evaluation of the studies which involved a comprehensive analysis of multiple factors. These included examining the theoretical underpinnings, the research methodology employed (i.e., quantitative, qualitative, or a mixed-methods approach), the variables and their respective measures, the geographic scope of the studies (whether it focused on a single-country or cross-country approach), and their contribution to the research.

*Insert Table 3 here*

### **3 Findings**

#### ***3.1 Theoretical review***

Studies on the EC, FP and SBPs relationship have utilised various theories in their bid to explore to these interrelationships. Our SLR generated a few distinctive theories relevant to this topic. These theories provide different lenses through which to examine these intricate relationships, spanning the fields of economics, governance, regulation, psychology, and sociology. Figure 3 synthesizes the theories linking EC, FP and SBPs.

*Insert Figure 3 here*

### 3.1.1 Economic and Governance Perspectives

This SLR uncovers that the agency theory is the most widely referenced theory in the literature concerning the interrelationship among EC, FP and SBPs (eg., Chen *et al.*, 2022; Jo and Harjoto, 2012; Phung *et al.*, 2022; Nguyen *et al.*, 2020). The agency theory explores the discord between the executives or CEOs (agents) and the shareholders (principals). Specifically, it provides a framework for understanding how EC structures can influence a CEO's decisions regarding FP and the adoption of SBPs. This theory suggests that executives, driven by their compensation incentives, may prioritize short-term FP over long-term SBPs, which could ultimately be more beneficial to shareholders (Lambert, 2001). This conflict usually arises due to the personal interest of executives in trying to maximise their compensation yet shirking responsibilities (Biggerstaff *et al.*, 2017), that are associated with improving FP and engaging in SBPs which align with shareholders' interests (Jensen and Meckling, 1976; Nyberg *et al.*, 2010). However, some scholars maintain that this issue could be minimised by tying the CEO's compensation to FP (Clarkson *et al.*, 2011b; Haque and Ntim, 2020). This alignment is posited to create a direct link between executive actions and firm outcomes, thus incentivizing behaviors that enhance both FP and SBPs. Though this strategy may help reduce the agency issues, other studies (eg., Bebchuk *et al.*, 2010; Edmans and Gabaix 2016; Frydman and Jenter, 2010) also note that excessive reliance on this approach could lead to situations such as executives manipulating earnings to maximise their compensation, thus emphasising the need for careful structuring of compensation contracts to avoid adverse effects. For instance, Olaniyi (2019) utilised the agency theory to examine the asymmetric relationship between CEO pay and FP in Nigeria. The findings indicate that CEOs are rewarded for good performance but not penalized equivalently for poor performance, indicating a failure of CEO pay to alleviate agency problems in listed firms in Nigeria.

Most economic theories propose that managers fulfil shareholders' interests purposely to avoid misalignment of goals and essentially boost FP. However, in the context of EC, FP, and SBPs, stakeholder theory provides a more comprehensive perspective. Unlike the agency theory, the stakeholder theory postulates that attempting to meet only shareholders' interests often produces myopic decisions and leads to short-term firm success (Nguyen *et al.*, 2020). The theory argues that a broader approach, considering the expectations and needs of various stakeholders, including employees, customers, and environmental groups, directly influences managers' decisions in terms of EC and FP. By acknowledging these diverse stakeholders, firms can develop a more sustainable and long-term approach to FP.

Therefore, the stakeholder theory advocates that, managers do not only focus on shareholders but also consider the interests of an extensive variety of stakeholders to achieve long-term development and success (Edmans, 2012; Tsang *et al.*, 2021). This broader focus can manifest in the adoption of SBPs, which are often driven by the need to address the concerns of important stakeholders like environmental activists. Such practices not only fulfill CSR but can also lead to improved FP through enhanced brand reputation, customer loyalty, and operational efficiencies. In this way, the stakeholder theory explains the link between a holistic stakeholder approach in management decisions, including EC, and the resulting impact on FP and SBPs. Thus, firms have commenced engaging in SBPs to also appease environmental activists who are considered key stakeholders (Neubaum *et al.*, 2012).

Consequently, the incentive alignment theory posits that compensation is used to synchronise the interests of executives, shareholders and other stakeholders (Tosi *et al.*, 1997). This theory is particularly relevant in explaining the relationship between EC, FP, and SBPs. This suggests that EC should be structured in a way that incentivises executives not only to work towards maximizing shareholder value but also to prioritize the interests of other stakeholders, including employees, customers, and the environment (Berrone and Gomez-Meija, 2009). This alignment is critical for integrating SBPs into the core business strategy, which can subsequently enhance FP. The theory also implies that when EC is linked to metrics that reflect both FP and SBPs, executives are more likely to make decisions that balance short-term financial gains with long-term sustainable growth (Fabrizi *et al.*, 2014). This approach encourages executives to consider the broader impact of their decisions on all stakeholders and the environment, thereby aligning their actions with SBPs. For instance, Tice (2022) ascertained that companies use relative performance evaluation metrics in CEO compensation to reduce agency costs and improve incentive alignment, leading to better investment decisions and FP. The finding supports the incentive alignment theory by connecting compensation structures to agency costs and firm outcomes. According to Steinbach *et al.* (2017), the incentive alignment between executives and other stakeholders is what drives them to make long-term investment decisions as these decisions can affect their pay, based on the compensation policies of the firm. In summary, incentive alignment theory provides a framework to understand how effectively structured EC can influence executive behaviour towards achieving both enhanced FP and the adoption of SBPs.

According to the risk management theory, SBPs generate valuable intangible assets for firms, such as moral capital which serves as a type of insurance for the firm (Godfrey, 2005; Dunbar, 2020). This theory proposes that by incorporating SBPs into their core strategies, firms



not only manage operational and reputational risks but also create long-term value for shareholders. The theory also suggests that risk management can increase shareholder value by lowering the risk of deadweight costs such as bankruptcy costs, which cannot be diversified away. In this context, the adoption of SBPs can be viewed as a proactive risk management strategy that reduces the likelihood of negative events such as environmental disasters or community conflicts, thereby safeguarding the firm's reputation and financial stability.

Therefore, engaging in SBPs is part of a larger strategy to build goodwill and positive political relationships (Borghesi *et al.*, 2014; Lins *et al.*, 2017). This strategy aligns with the interests of various stakeholders, including shareholders, by mitigating risks and enhancing the firm's long-term sustainability (Eccles *et al.*, 2014). The incorporation of SBPs into business operations and strategies reflects a comprehensive understanding of the intricate relationship between societal welfare, environmental stewardship, and corporate profitability (Bansal and DesJardine, 2014). Engaging in SBPs implies that a firm's policies and strategies prioritise the community and environment besides serving shareholder interests and meeting legal obligations (McWilliams and Siegel, 2011). In essence, risk management theory provides a framework for understanding how SBPs, as a component of a firm's risk management strategy, can positively influence both FP and the structuring of EC to align with long-term, sustainable objectives.

### *3.1.2 Regulatory Perspective*

Notably, only three studies (Adu *et al.*, 2022a; Adu *et al.*, 2022b; Haque and Ntim, 2020) examining EC, FP and SBPs interrelationships adopt the neo-institutional theory. The neo-institutional theory is a multi-faceted theory with explicit and/or implicit links to traditional economic (agency and resource dependence) theories (DiMaggio and Powell 1983; Meyer and Rowan, 1977) and social (stakeholder and legitimacy) theories (Adu *et al.*, 2022b; Haque and Ntim, 2020; Suchman, 1995), provides a comprehensive framework for understanding how regulatory and social pressures influence the alignment of EC with FP and SBPs. Evident in the previous sections, the discourse encompassing EC, FP and SBPs interrelationship involves numerous institutions and stakeholders (eg., shareholders, CEOs and environmental activists in this context) with contradicting interests. Adu *et al.* (2022a), and Haque and Ntim (2020), argue that neo-institutional theory being a robust multi-faceted and extensive theory is the most appropriate theory to explain complex interrelationships like those among EC, FP, and SBPs. Haque and Ntim (2020) postulate that this is a multi-faceted theory suggests that firms, driven by institutional pressures such as government regulations and global standards, align their

strategies including EC structures to these pressures, thereby influencing FP and their commitment to SBPs. These institutional pressures could be government regulations, global standards or mimicking others (Scott, 2005). The neo-institutional theory could be looked at from a social view (legitimation) and an economic view (efficiency). Regarding the social view, organisations may figuratively try to comply with institutional powers to obtain and sustain organisational legitimacy (Suchman, 1995). By contrast, the economic view involves firms engaging in SBPs which are cost-effective and reduce greenhouse gas emissions, thus actually protecting the planet (Mazouz and Zhao, 2019). Thus, neo-institutional theory underscores how external pressures shape a firm's approach to EC, FP, and SBPs, linking regulatory compliance with strategic corporate objectives.

A few studies examining EC, FP and SBPs have employed the managerial power theory. The managerial power theory suggests that in firms with poor organisational structure, devious executives may abuse their power when they are in the position to set their own compensation (Adu *et al.*, 2022c; Edmans and Gabaix 2016; Kartadjudena and Rodgers, 2019). Armstrong *et al.* (2012) suggest that the managerial power theory is particularly more relevant for understanding the misalignment between EC and SBPs, highlighting how unregulated executive power can lead to a focus on short-term FP at the expense of long-term sustainability efforts. They contend that executives with substantial control over their own remuneration might prioritise short-term financial performance at the expense of long-term sustainability efforts.

In contrast, the optimal contracting theory posits that EC contracts are a result of independent negotiations between executives and corporate boards (He *et al.*, 2014; Jensen and Murphy 1990). The impartial discussions between both parties then lead to EC contracts that reflect the interests of both parties and minimise extortion by either party, especially managers. Studies examining the EC-FP nexus, specifically utilising pay-for-performance sensitivity (PPS) mostly juxtapose the managerial power theory and optimal contracting theory, with the managerial power theory mostly prevailing (Bebchuk *et al.*, 2002; Elmagrhi and Ntim 2022; Ntim *et al.*, 2019). These studies suggest that the abuse of power by managers on shareholders' wealth and typically leads to a relatively small PPS. For instance, Ntim *et al.* (2019) utilised both optimal contracting theory and managerial power theory with their results providing compelling support against the optimal contracting theory. The study established a positive link between EC and FP but a relatively small PPS for non-financial companies on the South African stock exchange.

The cost-push effect is an expansion of Porter's Hypothesis (PH)<sup>1</sup> utilised by Chen et al. (2022) to explore the effects of carbon emissions trading scheme (CETS) on corporate green investments. This effect illustrates how regulatory instruments like CETS create economic incentives for firms to invest in green technologies and practices, thus influencing both their operational strategies and their approach to sustainability. For firms to continue their current production activities, they face two options: procuring additional carbon emission quotas or decreasing overall production to remain within the free emission allowances (Martin *et al.*, 2014; Hu *et al.*, 2020). The first option is to procure additional carbon emission quotas which will enable them to maintain their original production levels (Martin *et al.*, 2014). The second option involves decreasing their overall production to remain within the limits of the free emission allowances provided by the CETS (Doda *et al.*, 2019; Hu *et al.*, 2020). These options demonstrate the regulatory influence on firms' decisions, impacting their financial strategies and commitment to SBPs. Also, it underscores the crucial role that policy instruments such as the CETS play in incentivising businesses to consider their environmental footprints, further highlighting the relationship between economic factors and environmental responsibility in modern business strategy.

Additionally, the income-incentive effect indicates that the high costs and uncertain return of green investments can result in significant investment risks for companies and could lead to a lack of motivation for managers to undertake such investments (Yang *et al.*, 2016). However, the constraints imposed by the CETS compel firms to engage in green investment which can enable firms to reduce costs, rely less on traditional production methods, differentiate products, meet established carbon emission goals, profit from selling surplus emissions allowances from the carbon emissions trading market and establish the image of actively engaging in SBPs (Chen *et al.*, 2022; Oltra and Jean 2009). This effect links regulatory pressures to strategic decision-making in firms, illustrating how environmental regulations can directly influence EC, FP, and the adoption of SBPs.

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<sup>1</sup> The PH suggests that environmental regulations can stimulate business innovations, which could lead to increase in productivity and value of products for consumers (Porter & Linde, 1995). The PH further alludes that there is not necessarily a trade-off between economic growth and environmental protection, but rather a win-win situation. Environmental regulation may benefit both society and regulated firms by promoting dynamic efficiency and these benefits may offset the costs associated with compliance (Van Leeuwen & Mohnen, 2017).

### 3.1.3 *Psychological, sociological and other perspectives*

The tournament theory is also used in the discord on pay disparity and FP posits that a higher pay disparity between top executives and other management would encourage the other management to work hard and assist in achieving the organisational goals including improving FP (Lu *et al.*, 2022). This theory implies that in the context of EC, creating a clear hierarchy of compensation can motivate managers at different levels to strive for higher positions, potentially enhancing FP. The pay disparity does not necessarily create a perception of pay discrimination as it is assumed that decisions regarding compensation would be seen as fair assessments of ability and effort (Edmans and Gabaix, 2016; Rouen, 2020). Rouen (2020) suggests that this theory is only applicable if the determinants of EC are well explained and should have measurable metrics, ensuring that the pay structure is transparent and based on objective criteria, rather than subjective factors like favouritism or discrimination.

However, the equity theory provides an opposing view to the tournament theory. According to this theory, unequal pay can lead to perceptions of unfairness among subordinates, potentially resulting in negative outcomes such as reduced productivity or increased turnover, which can adversely affect FP. The theory suggests that the existence of unequal pay may cause subordinates to feel resentful, which may lead them to act in ways such as shirking responsibilities or even resigning which could have detrimental effects on FP (Ouimet and Zarutskie, 2014; Shin, 2016). This is particularly relevant when pay disparities are perceived to be influenced by non-economic factors such as favouritism, indicating the importance of fairness and transparency in EC for maintaining employee morale and productivity. Rouen (2020) utilised unexplained disparity (UPR) as a proxy for pay fairness and found a negative relation between UPR and FP, emphasising that in firms with weak corporate governance, the adverse effects of perceived unfair pay disparities on FP are more pronounced.

These contrasting theories highlight the complex psychological and sociological dynamics at play in the relationship between EC, FP and the broader organisational environment. Comprehending these dynamics is crucial for designing compensation structures that not only motivate executives and managers but also maintain a sense of fairness and equity within the organization, ultimately contributing to its overall performance and success.

## **3.2 Empirical review**

This section discusses the empirical findings of the SLR. Each sub-section focuses on the type of variables employed under each of the three measures (EC, FP and SBPs)

simultaneously. Figure 4 provides a summary of studies highlighting not only distinct measures but also the correlations and interactions between these three key variables.

*Insert Figure 4 here*

### *3.2.1 Executive Compensation measures and their interrelationships with Financial Performance and Sustainable Business Practices*

Understanding the parameters of EC is critical in examining its relation to SBPs and FP, as EC is a key component of corporate governance. However, beyond its role in governance, EC also significantly influences the strategic decision-making of executives, impacting both FP and sustainability commitments (Haque and Ntim, 2020). The methodology used in scholarly investigations to assess EC provides an illuminating perspective into the multifaceted associations that exist between executive remuneration structures, corporate performance, and sustainability objectives (Abudy *et al.*, 2021). In our SLR, we detect that most studies utilised total EC, for example, Haque and Ntim (2020) described their EC measure as the natural log of total fixed and variable remuneration paid to all senior executives (in USD) as disclosed by the firm. These studies provide insights into how the structure of EC influences FP. For instance, Banker *et al.* (2013) found that salary has a positive effect on Return on Equity (ROE), whereas CEO bonuses are negatively related to ROE, suggesting a multi-faceted relationship between different components of EC and FP. Some studies (eg., Olaniyi, 2022; Amin *et al.*, 2022; Sun *et al.*, 2013) shed light on the link between CEO compensation and FP. They suggest that higher CEO compensation can be aligned with improved FP, yet this relationship is complex and influenced by various factors such as firm size, industry, and market conditions. For instance, Kweh *et al.* (2020) and Basuroy *et al.* (2014) highlight that in certain contexts, especially in financially constrained firms, the correlation between high CEO pay and FP might not be linear.

Exploring the connection between EC and SBPs, some studies (eg., Haque and Ntim, 2018; Nigam *et al.*, 2018) indicate that aligning CEO pay with sustainability goals can foster a more sustainable business model. This relationship, however, is multi-faceted, as shown in studies such as Okafor and Ujah (2020), and Hartikainen *et al.* (2021). They demonstrate that while incentive structures can encourage CEOs to focus on sustainable practices, the efficacy of these incentives varies based on the company's governance structure and industry norms. Few studies

also employ market-based EC measures as stock volatility as a measure of CEO wealth-risk sensitivity, employed by Dunbar (2020) and Chen *et al.* (2022) which serves as a performance-based measure to link EC to SBPs. Stock options as part of EC can align CEOs' interests with long-term corporate sustainability, as these options are often tied to the company's long-term performance and reputation, which are influenced by SBPs.

Despite some studies using the variables EC and CEO Pay interchangeably as a measure of EC, Adu *et al.* (2022a) and Ntim *et al.* (2019) employ both variables as two individual measures of EC. The distinction between EC and CEO Pay is important in understanding the differential impacts these two forms of compensation have on FP and SBPs. While EC includes compensation for all executives, CEO Pay is specific to the CEO, whose decisions might have a more direct and significant impact on FP and SBPs.

### *3.2.2 Sustainable Business Practice measures and their interrelationships with Executive Compensation and Financial Performance*

Recognising the importance of SBPs in shaping corporate value, improving societal impact and protecting the planet, academic literature has produced a plethora of measures to assess and quantify such practices. These measures not only reflect a company's commitment to sustainability but also highlight the connection between SBPs, EC, and FP. Additionally, understanding the specificity of how SBPs are measured in academic studies can provide critical insights into the interrelationships between of EC, FP, and SBPs. As a result, this section will examine and discuss various SBPs measures identified in our SLR. Studies such as Ali *et al.* (2020) and Sheikh *et al.* (2018) incorporate broader measures like corporate social responsibility (CSR) initiatives and ESG criteria. These encompass a wide range of activities from community engagement to ethical governance practices. Other studies such as Haque and Ntim (2018), and Adu (2022) employ environmental performance indicators such as carbon footprint, energy efficiency, or waste reduction to measure sustainability as these metrics are tangible and directly related to a company's environmental impact.

However, few studies (eg., Adu *et al.*, 2022b; Haque and Ntim, 2020; Yu *et al.*, 2022) develop an aggregate index to capture specific environmental concerns or initiatives. For instance, Yu *et al.* (2022) utilised the air quality index (AQI) as a measure of air pollution. Though the Ministry of Environmental Protection of the People's Republic of China provides an air

pollution index which constitutes of three air pollutants (SO<sub>2</sub>, NO<sub>2</sub> and PM<sub>10</sub>)<sup>2</sup>, Wu *et al.* (2018) found that AQI which comprises three more air pollutant (CO, O<sub>3</sub> and PM<sub>2.5</sub>) is a more comprehensive index. This indicates that more detailed and comprehensive measures of SBPs can provide a clearer picture of a firm's environmental impact and its correlation with EC and FP.

Additionally, most studies employ aggregate ESG scores as a measure of companies' SBPs, however, few studies (eg., Phung *et al.*, 2022; Yu *et al.*, 2022) employ very specific components of ESG. For instance, Phung *et al.* (2022) utilise a database-specific score such as the Refinitiv ESG innovation score that measures a firm's ability to reduce its environmental costs and associated costs for customers by implementing new environmentally friendly products and services which subsequently opens new market opportunities for the firm. Their findings suggest a positive correlation between higher top-management pay levels and higher engagement levels in eco-innovation, indicating an interrelationship between EC and SBPs.

Furthermore, some studies also do highlight that there is a distinction between actual SBPs implemented by firms and self-reported SBPs the companies disclose in their annual report (Adu *et al.*, 2022a; Marquis and Qian, 2014). For instance, Cho *et al.* (2015) argue that companies may exaggerate their self-reported SBPs to enhance their reputation, a phenomenon known as 'greenwashing', in which businesses may exaggerate or falsely represent their environmental performance in order to benefit their reputations (Lyon and Montgomery, 2015). This discrepancy can impact the perceived relationship between SBPs and FP. As such, Adu *et al.* (2022a) provided a self-reported greenhouse gas reduction initiative index to evaluate a company's participation in environmental protection efforts. Their results suggest that while actual carbon performance adversely affects FP, self-reported carbon performance has no significant impact. This underlines the importance of using rigorous and objective assessments of SBPs to accurately understand their relationship with EC and FP. Identifying and addressing this distinction could lead to a more accurate understanding of the relationship between EC, FP, and SBPs. Thus, highlighting the need for transparency and standardisation in reporting SBPs to ensure that research findings truly reflect corporate sustainability performance (Christensen *et al.*, 2014). Subsequently, the findings vary significantly due to geographical contexts, industry-specific dynamics, corporate governance structures and methodological

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<sup>2</sup> PM<sub>2.5</sub> and PM<sub>10</sub> refer to atmospheric particulate matter (PM) that have a diameter of less than 2.5 micrometres or 10 respectively. They are key indicators used to assess air quality. Also, SO<sub>2</sub>, NO<sub>2</sub>, CO and NO<sub>2</sub> stand for Sulfur dioxide, Nitrogen dioxide, Carbon monoxide respectively and are other common air pollutants (Wu *et al.*, 2018)

differences. Different regulatory environments and cultural norms across regions (Lam *et al.*, 2013), can lead to varied outcomes. For example, firms in Europe, with stricter environmental regulations, might exhibit a stronger link between sustainability and executive pay. In terms of industry-specific dynamics, the energy sector might show a stronger correlation between environmental performance and executive compensation due to regulatory pressures compared to less regulated industries (Michaelides *et al.*, 2019),

### *3.2.3 Financial Performance measures and their interrelationships with Executive Compensation and Sustainable Business Practices*

Assessing FP is central to understanding the impact of EC and SBPs (Edmans, 2011). The measures of FP in academic literature vary, reflecting different dimensions of corporate success. These measures not only provide insights into the company's financial health but also indicate how EC and SBPs influence and are influenced by FP. Commonly used financial indicators include Return on Assets (ROA), ROE, and Earnings per Share (EPS) (Brigham and Ehrhardt, 2013). For instance, Haque and Ntim (2020) utilise ROE and EPS as key metrics to evaluate the effectiveness of executive compensation structures in enhancing FP. These financial metrics offer a direct way to assess how EC aligns with shareholder interests and drives financial outcomes (Jensen and Murphy, 1990). Beyond traditional financial metrics, some studies incorporate market-based measures such as stock price performance or total shareholder return (Fama and French, 1993). These market-based measures provide a broader perspective on FP, reflecting not only the internal financial health of the company but also the market's perception of its future prospects. This aspect is particularly relevant when examining the impact of SBPs on FP, as sustainable practices can influence investor confidence and market valuation. The interrelationships between these various FP measures, EC, and SBPs highlights the multifaceted nature of corporate performance (Eccles *et al.*, 2014). It shows that a comprehensive understanding of FP requires considering both financial and non-financial outcomes, and how they are shaped by executive compensation and sustainability practices (Kaplan and Norton, 1992).



## 4. Research gaps

Despite the significant progress made by recent studies on EC, FP and SBPs nexus, some limitations have been identified, providing potential opportunities for further research. The limitations and suggestions relating to the theories, methodology and variables are discussed sequentially in this section. Some of these recommendations are in line with the results of recent literature reviews (Lorenzo-Reina, 2020; Lu *et al.*, 2022).

### 4.1 Theoretical gaps

In the first instance, as illustrated in Figure 4, some studies (eg., Bouslah *et al.*, 2018) do not utilise a theoretical framework. Most studies with no theoretical framework are only able to describe phenomena without understanding why they happen, making it challenging to make meaningful predictions or derive meaningful inferences from data (Creswell and Creswell, 2017). Thus, confirming that studies with theoretical framework are of higher quality (Lu *et al.*, 2022; Nguyen *et al.*, 2020). Therefore, it is imperative that future research clearly implement a theoretical framework to improve the quality of the study.

Secondly, some studies utilise theoretical frameworks in a more descriptive manner and do not necessarily link them to their proposed hypothesis nor empirical findings. Utilising a theoretical framework but not linking it to the research result draws parallel inferences to the first theoretical gap. In contrast, Adu *et al.* (2022a) adopt the neo-institutional theory framework, linking it to the empirical results obtained in examining the interrelationship among EC, FP and SBPs. Therefore, it is critical for future studies to establish a link between the theoretical framework and the empirical results to improve the quality of the study.

Lastly, very few studies (eg., Orazalin *et al.*, 2023) utilise a multi-theoretical framework. Utilising multiple contrasting or complementary theories aid in better explaining the different facets of EC, FP and SBPs. For example, individually, theories such as agency theory, stakeholder theory, resource dependence theory and neo-institutional theory provide different perspectives on the impact of corporate governance structures on sustainability-for-performance metrics. Nonetheless, Adu (2022) utilises a multi-theoretical framework involving all these theories to fully comprehend the interrelationship between corporate governance disclosure index, FP and SBPs. Also, Rouen (2020) apply contrasting theories such as the tournament and equity theory to better understand the relationship between pay disparity and FP. Therefore, future research may implement multi-theoretical frameworks specifically combining different economic, governance, psychological and sociological theories.

#### *4.2 Methodological and contextual gaps*

Firstly, all the studies employ quantitative methodology with no study utilising a qualitative approach. Haque and Ntim (2020) as part of their study limitation acknowledge that the measures for EC, FP, SBPs and carbon performance may or may not reflect actual corporate practice. In highlighting the lack of adequate qualitative study, the authors recommend that future research could offer different insights by adopting a qualitative approach through interviews with the relevant stakeholders or even employing case studies to deepen the investigation in the field.

Secondly, the majority of studies concentrate only on developed countries such as the UK, the US and China, neglecting the other developed countries and likewise, the less industrialised countries as illustrated in Figure 5. Only a few of studies focused on other countries including Thailand, Hong Kong, Saudi Arabia and South Africa. Several factors contribute to the scarcity of research in emerging markets. To begin with, language barriers exacerbate the problem because databases typically contain only financial information without translated annual reports in English language, resulting in missing data and limiting research. Furthermore, some countries do not have board and governance-related databases, resulting in data inaccessibility.

Thirdly, most studies involve single-country analysis with only 1% implementing cross-country studies. The lack of adequate cross-country analysis can be attributed to the differences in accounting standards and local regulations between countries which creates contextual disparities that can be avoided by conducting a single-country analysis. Despite these obstacles, the globalisation process has resulted in an increase in multinational corporations operating on a global scale, emphasising the importance of conducting research in these settings. For example, Haque and Ntim (2020) perform a cross-country analysis using 13 industrialised European countries, providing robust results. Therefore, future research could explore more cross-country analysis (Nguyen *et al.*, 2020).

*Insert Figure 5 here*

### 4.3 Measurement gaps

The early 1990s saw a rise in shareholder activism, which led businesses to declare that they want to maximise shareholder value and use that as the basis for EC (Gentry and Shen, 2010; Useem, 1993). Gentry and Shen (2010) argue that accounting-based performance measures are typically restricted to a particular aspect of the FP. For instance, ROA only examines the percentage of operating profit to total assets, with no other aspect of the income statement or balance sheet considered in this ratio. However, market-based accounting measures incorporate all relevant information on the market. Therefore, in order to produce robust findings involving FP, it is imperative for future researchers to utilise both accounting-based and market-based based performance measures (Adu *et al.*, 2022a; Al-Faryan, 2021; Ntim *et al.*, 2019) as both measures have their individual shortfalls.

Lastly, very few studies employ different measures for the same variable. Utilising different components of a variable aid in exploring the different facets of such variable, thus leading to more robust results. For instance, aside from using actual carbon performance measures, specifically greenhouse gas and CO<sup>2</sup> emissions, Adu *et al.* (2022a) also provided a self-reported greenhouse reduction initiative, an index consisting of 21 dummy variables that evaluate the degree of a firm's participation in environmental protection efforts. The result of the study suggests that while actual carbon performance adversely affects FP, self-reported carbon performance has no impact on FP. Therefore, future research could benefit from juxtaposing actual performance measures with self-reported indexes to improve the robustness of the study.

## 5. Conclusion

The main aim of this SLR is to comprehensively analyse past research regarding the interrelationship between EC, FP and SBPs. The analysis was mainly focused on the theoretical underpinnings and empirical review of the EC, FP and SBPs nexus. Spanning from the post-2008 market crash till 2022, the study obtained a final list of 161 studies from over 72 high-quality journals mainly in the accounting, finance, business, management and sustainable science-related areas. This study contributes to literature in several ways.

Firstly, this SLR discusses 12 theories from 3 different perspectives which could help in future research as well as the theoretical understanding of the EC, FP and SBPs interrelationship. Given the inherent complexities and multi-faceted aspects of this

interrelationship, this study suggests employing a comprehensive multi-theoretical approach that amalgamates perspectives from various economic and psychological theories. This more holistic approach will likely offer a deeper and more nuanced understanding of the dynamics between EC, FP and SBPs. Secondly, the empirical review highlights the distinctive variables that future studies could use to deepen our understanding of this crucial interrelationship. These variables encompassing different measures of EC, FP and SBPs highlight the importance of employing diverse measurements for the same variable, as this approach facilitates a comprehensive exploration of the variable's multi-dimensional aspects. Thus, leveraging these diverse variables and measurement approaches could aid future research in delving deeper into the nuances of the EC, FP and SBPs interrelationship, resulting in more robust findings. Lastly, the gaps associated with the theory, methodology and variables of the reviewed articles are identified. In summary, the identified gaps lead to the suggestion for future research to engage in more multi-theoretical perspectives. Also, to employ qualitative and mixed methodology approached while engaging in more cross-country analysis. These gaps indicate areas for further study that could address the issues and add to our understanding of the association among EC, FP, and SBPs. By bridging in these gaps, future research can enhance the theoretical and practical implications in the field and help in the design of SBPs policies.

Notwithstanding the above significant contributions, there are a few limitations that must be acknowledged. Firstly, this search was limited to papers published only in English language; a constraint influenced by the academic linguistic capabilities of the authors. This language constraint could potentially result in the omission of pertinent research published in languages other than English, which in turn could introduce a certain degree of bias to this study's findings. Accordingly, future research could consider broadening the linguistic scope of their SLRs given the necessary language competencies of the authors, to enhance the comprehensiveness and depth of the study. Secondly, in the interest of maintaining the highest scientific standards of quality and reliability, we adhered strictly to the Chartered Association of Business Schools (CABS) journal ranking, including only articles ranked 2 and above. This approach might have inadvertently excluded valuable contributions published in lower-ranked or non-ranked journals. In order to ensure the inclusion of a great variety of studies possible, further studies could also consider lower-ranked journals in the CABS or use alternative journal ranking lists such as the Australian Business Deans Council, the European Reference Index for the Humanities, Google Scholar Metrics, and the SCImago Journal & Country Rank. Furthermore, this SLR only focuses on studies within the accounting, finance, management, and business subject areas. This criterion

may have led to the exclusion of studies relevant to this SLR but classified under different subject areas.

The limitations found in this study are common to SLRs (Alatawi *et al.*, 2023; Lu *et al.*, 2022; Nguyen *et al.*, 2020). Despite this, to ensure the validity and reliability of the SLR outcome, the authors were mindful of these limitations during the analysis and consciously followed a systematic approach, as much as possible.

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