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Green Employee Behaviour, Institutional Pressure, and Environmental Performance: A Moderation Analysis

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Abstract: The increasing concerns about environmental degradation, environmental issues, and green employee behaviour have been attracting constant attention and pressure from business sectors, but the extent to which institutional pressures moderate the effects of green employee support and green jobinduced stress on environmental performance has limited number of studies. The study sought to understand how the impact of institutional pressures on environmental performance is largely determined by the firm's willingness to respond based on their green employee support or reducing green-induced job stress. Focusing on transport and logistics-related firms from both manufacturing and service sectors, the study conducted a survey that collected data from 227 firms using questionnaires as the research instrument. The respondents for the study were top-level managers. The findings revealed that green support and environmental performance are positively related. It was also found that the green induced job stress negatively influences environmental performance. Finally, the effect of green employee support on environmental performance is conditioned by high levels of institutional pressure, but the moderating effect of institutional pressures on the relationship between green-induced job stress and environmental performance was not statistically significant. The study contributes to the environmental literature by demonstrating the importance of green-induced job stress and green employee support in explaining environmental performance. Given certain external conditions, especially customers' environmental demands and competitors' organisational green initiatives, a firm with strong green employee behaviour should generate superior performance with its emphasis on the integration of organizational efforts to deliver superior environmental performance.

Keywords: Green Employee Behaviour, Green Employee Support, Green Induced Job Stress, Institutional Pressure, Environmental Performance

1. Introduction

Growing concerns about environmental degradation, environmental issues, and green employee behaviour have attracted constant attention and pressure from business sectors (Abdullah *et al.*, 2016). Gradually, companies are moving beyond viewing environmental sustainability as an exercise in compliance and cost reduction (Roscoe, Cousins, and Lamming, 2016). Instead, they are recognising that competitive performance depends upon the health of the world and community (Bhupendra and Sangle, 2015; Luzzini *et al.,* 2015; Wang *et al.,* 2015). Organisations will interpret community investment as an investment in potential economies if they view sustainability as creating "shared value" (Porter and Kramer, 2011). Companies must analyze the major drivers and antecedents in their businesses to facilitate the adoption of green employee behaviour (Routroy, 2009a, 2009b). Customers' concerns (Zhou *et al.,* 2021), business owners' preferences (Huang *et al.*, 2009), suppliers' capabilities (Chiou *et al.*, 2009), government regulations (Qi *et al.*, 2010; Kammerer, 2009), and the technological, organizational, and environmental determinants of green practices are all examples (Lin and Ho, 2011). Although previous studies have provided some evidence of the influence of various factors on green practices, few systematic and comprehensive analyses of the antecedents and drivers of green strategy have been conducted.

Environmental management issues have become an important consideration for firms because of growing public concern and government pressure on environmental protection (Zhu *et al.*, 2017; Lee and Klassen, 2016; Brammer *et al.*, 2012). Firms are expected to adopt and implement environmental management practices to alleviate the negative influence of their activities on the natural environment (Yu *et al.*, 2017; Mårtensson and Westerberg, 2016; Hofer *et al.*, 2012). Erkut and Kaya (2017) indicated that the innovativeness of corporate social responsibility activities for spreading awareness depends on the establishment of a firm and the type of corporate culture and character it implements. Such innovativeness requires knowledge of current and potential employees to create and maintain a competitive advantage. Therefore, companies must integrate the corporation and employees to use innovative knowledge for gaining competitive advantage. Based on the aforementioned observation, this study explored green employee support (GES) and green-induced job stress as competing intermediaries to determine how green employee behaviour influences environmental performance.

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Voluntary actions by company staff to improve green management–related measures are essential and are termed green support (Paillé *et al.*, 2013; Daily *et al.*, 2012; Boiral *et al.*, 2009). Therefore, green support is an approach through which a company achieves environmental management or plans. In contrast, previous empirical investigations of green employee behaviour have primarily examined its effects on environmental performance, rarely considering other effects on employees' job stress (Ren *et al.*, 2018). Accounting for the notable exception of Wagner (2011), there is little empirical evidence about the effects of 'green' training on job satisfaction, i.e., the degree to which an individual enjoys her job (Lu *et al.*, 2007), of the individual-level mechanisms through which these effects can materialise. Recently, scholars have increasingly touted institutional theory as an important research perspective for studies on firms' environmental protection behaviour (Buysse and Verbeke, 2003; Berrone *et al.*, 2013; Colwell and Joshi, 2013; Moon *et al.*, 2014; Albertini, 2017). They think that institutional pressures can strongly affect firms' predispositions toward environmental protection issues. However, findings on how institutional factors affect firms' environmental performance are mixed. For example, some studies find that institutional pressures have significant and positive effects on firms' intention to take measures to protect the environment (e.g., Roxas and Coetzer, 2012; Colwell and Joshi, 2013), while others find they are insignificant (e.g., Nygaard and Biong, 2010). That is, firms respond heterogeneously when subjected to a homogeneous level of institutional pressure (Berrone *et al.*, 2013; Colwell and Joshi, 2013). Thus, it is necessary to investigate the moderating effects of institutional pressures on the relationship between employee green support and green-induced job stress on environmental performance.

Green strategies have become an effective tool for companies to improve market share and long-term survival. A good invention improves a company's market position, draws potential customers, and gives them a competitive advantage (Lin *et al.*, 2013). As a result, the current research takes a green approach to radical innovation. The Schumpeterian typology identifies product and process technologies that can be applied to green strategy (Hellström, 2007). Although green strategy in the manufacturing industry can be divided into product and process innovation (Chiou *et al.*, 2011; Dangelico & Pujari, 2010), it is nearly impossible to do so in the transportation and hospitality industry due to the close connection between production and consumption (Orfila-Sintes, Crespí-Cladera, & Martínez-Ros, 2005). Therefore, from a holistic perspective, the present study defines green employee behaviour as initiatives in product and production processes to achieve environmental objectives and reduce the product's ecological footprint throughout its life cycle (Lin *et al.*, 2014). This study uses institutional theory to examine the moderating role of institutional pressure. According to some scholars, an organizational green strategy entails the introduction of a range of management practices aimed at reducing environmental impacts (Triguero *et al.*, 2013). As the environment shifts in response to competition, consumer needs, and other stakeholder demands, understanding the influence of marketing capability is crucial. Extant studies used institutional theory to explore the role of environmental pressures on firm performance, often overlooking the potential role of organisational capabilities such as marketing (Mariadoss *et al.*, 2011; Weerawardena, 2003). Therefore, understanding the role of green employee support and green job-induced stress and the moderating role of institutional pressures is now imperative.

The study's moderation framework seeks to understand how institutional pressures' impact on environmental performance is largely determined by the firm's willingness to respond through green employee support or by reducing green-induced job stress. Researchers have studied institutional pressures on environmental performance, as well as how managers in similar fields have shaped their management practices to respond to institutional pressures and enhance environmental performance (Guerci *et al.*, 2016). But the extent to which institutional pressures moderate the effects of green employee support and green job-induced stress on environmental performance has limited number of studies. Measuring environmental performance has been a key problem for many researchers, as there seems to be no single approach, and most studies skew toward parametric or non-parametric methods. Given the growing focus on sustainability, this study seeks to determine the extent to which green employee behaviour affects environmental performance.

2. Literature Review

2.1. Green Employee Behaviour

Starik & Marcus (2000) found that in the 21st century, for the survival of the organizations, an important factor is environmental sustainability, and the factors that contribute towards employees' green behaviour are the specific workplace pro-environmental behaviour. An important factor contributing to environmental sustainability is RGS (Ones and Dilchert, 2012). Traditionally, only economic thinking was considered the main driver of environmental change, but Barnett and Hyde (2001) and Bonan (2008) shift the focus by including behavioural change alongside technological and scientific thinking, helping move the paradigm toward more sustainable environments. Organizations are in the position to make necessary changes which can environment significantly and they are under the pressure of norms, regulatory bodies and social pressure (Scott, 1995) and organization are also responsible to pay attention to the needs of their stakeholder and society is one of the important and main stakeholders of all organization as they get their profit the society (Fairfield, Harmon, & Behson, 2011). Organizations are somehow involved in technological interventions, which are also positive, but they can't ensure sustainable environmental outcomes (Gouldson & Sullivan, 2007). Russel and McIntosh (2011) propose that instead of installing technology, employees of the organization should be trained and motivated to behave in environmentally friendly manners, which is a more prominent approach for a sustainable and healthy environment. Human resources of an organization is main factor in deciding the success and failure of an environmental management system (Zibarras & Coan, 2015). Davis, Leach, and Clegg (2011) found that technology is contributing to environmental performance, but it relies on the human resources of the organizations. So, the success of such environment friendly system is dependent on employees' behaviours.

2.1.1. Green Behaviour of Employees at the Workplace

Green behaviour of employees at the workplace is conceptualized as voluntary behaviour (see Paillé & Boiral, 2013; Ramus & Steger, 2000). This model includes both required and proactive behaviour, but it is not possible for the employees to show both types of behaviour in the workplace; while belonging to different groups, they behave differently. Task-related behaviours play an important role in achieving companies core values (Borman & Motowidlo, 1997; Organ, 1997; Rotundo & Sackett, 2002), and voluntary behaviour contributes towards a social and psychological environment that indirectly supports task behaviours. It involves employees' personal initiatives towards the environment that are more than organizational expectations. Bissing-Olson, Iyer, Fielding, and Zacher (2013) found that task-related RGS is extra-role behaviour performed within the

context of assigned work tasks, including employees' consumption behaviour of water, energy, and other organizational resources.

2.1.2. Green Employee Support

Academic researchers define employee support as converting employee potential into employee performance and business accomplishments (Shaw, 2005). Moreover, in engagement, people use and express themselves physically, cognitively, and emotionally while performing their jobs (Kahn, 1990). Employee support differs from other constructs, such as employment, commitment to the organization, and intrinsic motivation (Lawler and Hall, 1970). Employees can be given a chance by the management to take part in the management of the environment, which makes them work in favour of stopping pollution and finding opportunities for the environment. To improve environmental management performance, employee support in these activities is essential. The systems of environmental green systems include making full utilization of available resources, minimizing pollution and waste at the workplace (Tseng, Tan, & Siriban-Manalang, 2013). Green support encouragement includes providing opportunities to employees to be engaged in activities by which environmental problems can be solved, and quality of life can be improved (Saeed *et al.*, 2019). In order to implement any kind of shared vision within the organization, employees are the most important stakeholders (Felin, Foss, & Ployhart, 2015). Research has considered the support of employees to solve the issues regarding the environment to be very important. Researchers have pointed out that the success of green strategies within the organization is dependent upon employees taking action automatically regarding environmental issues.

Green strategies provide direction for collective strategies, which can influence employees' actions and guide them in the right direction. In the same context, a green shared vision is defined as a common and clear direction in order to achieve collective organizational goals and objectives, which are communicated by the organization internally (Chang, 2020). Researchers noted that employees involved in environmental issues have more knowledge of environmental issues. Moreover, they have greater capability to solve environmental problems, which leads to improved environmental performance (Rothenberg, 2003). Tang, Chen, Jiang, Paille, and Jia (2018) identified five aspects that play an important role in encouraging employees to engage in green activities. The first point is a clear green vision. The second point is learning about the green climate, whereas the third includes climate channels. Due to these two points, employees became concerned about environmental problems. A firm can build a green culture through informal and formal communication.

2.1.3. Green Induced Job Stress

Several studies have shown that job stress negatively affects employee performance, considering the various factors involved, and especially employee job satisfaction. This has been confirmed by recent studies (Ahmed & Ramzan, 2013) shows that there exists a negative correlation between job stress and employee performance. A similar study found that factors such as workload, role conflict, and inadequate monetary reward are major sources of stress that reduce employee performance. Furthermore, Jeyaraj (2013) investigated the impact of occupational stress among teachers and found that stress causes teachers to be absent, increase tendency to quit, and makes them less likely to pursue a teaching career, hence negatively correlated. The awareness of environmental issues is rising among employees, customers, investors, and businesses (Tahir *et al.*, 2020). Organizations are seeking ways to address rising environmental consciousness and awareness among stakeholders by making employee behaviours environmentally friendly (Cherian & Jacob, 2013; Yuriev *et al.*, 2020). The effect of green-induced job stress (the misleading information by organizations to portray an environmentally responsible image to the public with false claims) (Francis *et al.*, 2007) on green employee behaviour has unclear findings in the literature (Wright & Nyberg, 2017) and the factors affecting their relationship indirectly (Deshwal, 2015).

The literature is reviewed, and despite a limited number of empirical studies on the relationship between green-induced job stress with green employee behaviour, the available empirical evidence shows green induced job stress (Walker & Wan, 2012) has a negative impact on employees being a stakeholder (Vos et al., 2009), green trust (Chang & Chen, 2012), and employee engagement (Pontefract, 2016), etc. The evolution of green thinking has a difficult-to-trace history as it has roots in ancient history, literature, and religious practices (Saha & Darnton, 2005). However, the modern environmental movement began in the mid-to-late 1960s by raising public awareness of high-profile environmental events (e.g., Rachel Carson's book "Silent Spring"). Greening is a process of becoming environmentally friendly by reducing pollution, improving the efficiency of non-renewable and renewable resources, and conducting activities in an environmentally sustainable manner (Gupta, 1995). Green-induced job stress, in contrast, refers to organisations misleading the public with false claims to portray an environmentally responsible image (Francis *et al.*, 2007). Strategically, greening involves estimating the environmental footprint and comparing it to a benchmark, conducting life cycle evaluations of product environmental declarations, and assessing financial impacts. At the implementation stage, greening refers to low-cost or no-cost projects (including environmental costs), data-centre reengineering, green IT, and on-site renewable energy. On the operational level, greening refers to employee engagement programs, environmentally friendly procurement services, and strategic pro-environmental communication modes. Companies that take the first step towards environmental friendliness through differentiation increase their market share (Ramus & Montiel, 2005).

2.2. Environmental performance

The terms "environmental performance" and "environmental management systems" are often used interchangeably. Environmental management refers to a company's efforts to reduce its negative impact on the environment. "Environmental performance assesses a company's achievement in reducing and decreasing its environmental impact, usually in comparison to an industry average or peer group" (Klassen and McLaughlin, 1996). This section demonstrates that environmental management is a significant determinant, or component, of overall environmental performance (Klassen and McLaughlin, 1996). Environmental performance is complex and multidimensional, making it difficult to determine changes in performance (improvement). This is particularly true because organisations have different operations and regulatory environments, and each has its own measures and values of performance (Bellesi *et al.*, 2005; Hertin *et al.*, 2008). Environmental performance may also be difficult to understand and determine when organisations interpret it differently. Studies such as Hamschmidt (2000) indicate that organisations' interpretation of environmental performance is influenced by their original motivations for adopting pro-environmental behaviour. Environmental performance may therefore be fully defined only in light of individual

organisations' motivations, whether purely 'environmental' or not. Continued investigation of causality between drivers, outcomes, and environmental performance is necessary. Interpret results based on causal relationships, taking individual organisational views on environmental performance into account.

Environmental performance can be defined based on three categories. The first category comprises environmental impacts from emissions and energy use. The second category includes regulatory compliance; activities include installing a treatment and/or recycling plant. The third category, environmental performance, can be viewed through the lens of organisational processes and capital expenditures (Delmas & Blass, 2010). Some stakeholders use a mixture of three categories to define environmental performance (Muhammad *et al.*, 2015). In this study, environmental performance is defined as improved environmental compliance, reduced solid/liquid waste and greenhouse gas emissions, and improved recycling activities. More precisely, environmental performance in this current study refers to the organisational processes to achieve a firm's goals for environmental improvement and greenhouse gas emissions reduction. Green employee behaviour can serve as a platform for improving the firm's environmental performance. Green employee behaviour can reduce the solid/liquid waste and greenhouse gas emissions companies produce. To enhance environmental performance, companies must be aware of the importance of their role in sustainability. A company will survive in the green industry if it successfully implements an eco-innovation strategy in its operations. In other words, a company will reap financial returns when it lowers production costs while protecting the environment.

Environmental performance is a complex and multidimensional issue, and determining changes in performance (improvement) is difficult as a result. This is particularly true because organisations have different operations and regulatory environments, and each has its own measures and values of performance (Bellesi *et al.*, 2005; Hertin *et al.*, 2008). "Environmental performance may also be difficult to conceptualise and assess when it is interpreted differently across organisations. Empirical studies indicate that firms' interpretations of environmental performance are shaped by their initial motivations for adopting pro-environmental practices, such as regulatory compliance, cost efficiency, or strategic positioning (Hamschmidt, 2000; Delmas & Blass, 2010; Bansal & Song, 2017), indicate that organisations' interpretation of environmental performance is influenced by their original motivations for adopting pro-environmental behaviour. Environmental performance may therefore be fully defined only in light of individual organisations' motivations, whether purely 'environmental' or not. Continued investigation of causality between drivers, outcomes, and environmental performance is necessary. Interpretation of results based on causal relationships should consider individual organisational views on environmental performance. Moreover, related studies have typically focused on, or been carried out in, organisations based in developed or emerging economies, limiting the widespread relevance of the findings (Hertin *et al.*, 2008).

2.3. Institutional Pressures

According to DiMaggio and Powell (1983), institutional pressures originate in the institutional environment and can affect firms' managerial decisions and practices. Additionally, Scott (2005) divides institutional pressures into regulatory, normative, and mimetic pressures. These pressures primarily arise from firms' key stakeholders—including governments, non-governmental organizations, suppliers, and customers—who exert regulatory, normative, and market-based influences on organisational behaviour and sustainability practices (Awa et al., 2024; Sawang et al., 2024; Mungai et al., 2023). Regulatory pressures originate from political influence exerted by powerful stakeholders (e.g., governments) on which the focal firm depends. These powerful stakeholders provide explicit guidance to firms through rules, rewards, and even sanctions (DiMaggio and Powell, 1983). Empirical evidence suggests that regulatory pressures can result from a government mandate (Bruton *et al.*, 2010). Normative pressures are the pressures that stem from collective expectations, values, and standards within a particular organizational context (DiMaggio and Powell, 1983). There is empirical evidence that normative pressures originate from nongovernmental organizations, customers, and suppliers in the supply chain (Liu *et al.*, 2010). Mimetic pressures mainly arise from imitating other organizations' successful actions and practices to minimize cognitive uncertainty (DiMaggio and Powell, 1983).

Although institutional pressures include three kinds of pressure, Scott (2005) indicates that regulatory and normative pressures deserve special attention. Meanwhile, Berrone *et al.* (2013) note that these three pressures are at work simultaneously, but their role and relevance is context specific. In the context of environmental management, most research considers regulatory and normative pressures crucial for firms (Kassinis and Vafeas, 2006; Brammer *et al.*, 2012; Colwell and Joshi, 2013). In addition, the environmental management initiatives are just beginning in most firms in China, and the benefits obtained from implementing environmental management practices are unclear and long-term. In this context, most firms tend to take a wait-and-see approach and are unwilling to follow or imitate partners or competitors in implementing environmental management practices. The effect of mimetic pressures is limited and can be omitted. Hence, this research reasonably explores only the moderating role of institutional pressures in affecting firms' environmental performance.

2.4. Conceptual Model and Hypotheses Development

Having reviewed the theories underpinning this study, this section presents the procedures for developing the conceptual model that relates green employee behaviour to green performance. The conceptual model also seeks to establish the influencing roles of firm green employee support as well as green job-induced stress and socio-cultural orientation of these managers, in the relationship between the green employee behaviour and environmental performance of transport and logistics-related companies in Ghana. Figure 1 presents the conceptual model of this study.

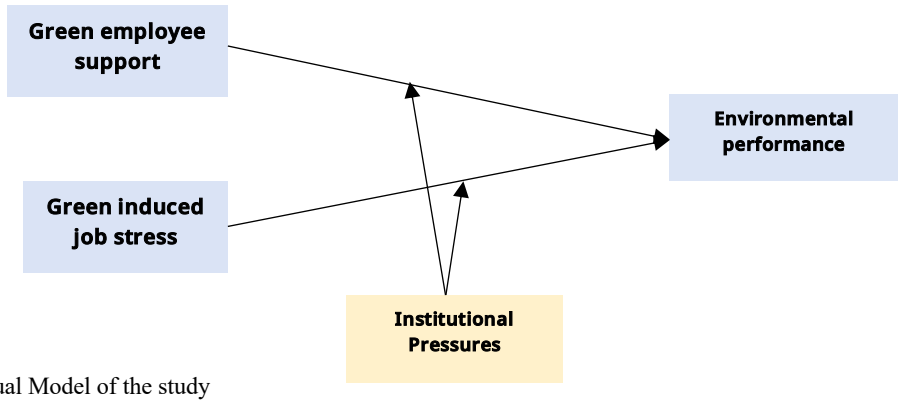


Figure 1: Conceptual Model of the study

2.4.1. Green Employee Support and Environmental Performance

Employees are likely to play a significant role in implementing positive environmental policies, which can improve a company's environmental performance (Darnall *et al.*, 2010). Furthermore, workers with environmental responsibilities also provide knowledge and suggestions that can help businesses address environmental management issues and innovate (Ramus, 2001). Green employee support refers to the extent to which green practices adopted by firms provide opportunities for employee development and involvement in decision-making (Liu *et al.*, 2020). Employees have been linked to both the advancement of environmental policies (Darnall *et al.*, 2008; Kitazawa and Sarkis, 2000; Zutshi and Sohal, 2004) and environmental performance (Darnall *et al.*, 2008; Kitazawa and Sarkis, 2000; Zutshi and Sohal, 2004). (e.g., Hanna *et al.*, 2000). This Job-Demand Resource model (JDRM) states that work demands and resources have an effect on one another, as shown by their definitions: Resources are aspects of a job that are a) functional in achieving work goals, b) reduce job demands at their costs, or c) stimulate personal growth or development. In alternate way, green employee behaviour also qualifies as a resource factor, which can motivate organizations to provide the necessary support for employees while pursuing novel green practices. In environmental studies, researchers have placed high value on employee environmental behaviour and the determinants that influence it (Bamberg & Möser, 2007).

The subject of pro-environmental initiatives is a pressing one, and there are still few empirical studies on the activities associated with pollution control, green technologies, environmental performance, and effective environmental management systems (Ramus & Killmer, 2007; Junior *et al.*, 2020; Gil-Leon, 2020; Hernandez & Prieto, 2020; Maziriri, Mapuranga, Maramura, & Nzewi, 2019; Fatoki, 2019; Mazzoni, 2020). Bosses may allow employees to participate in environmental management, motivating them to reduce emissions and find environmental opportunities. Employee participation in environmental management programs is critical to improving environmental performance. Green systems for the environment include maximizing the use of available resources and reducing emissions and waste at work (Tseng, Tan, & Siriban-Manalang, 2013). Employees are the most critical players in implementing a common vision within the company (Felin, Foss, & Ployhart, 2015). Employee interest in resolving environmental problems is a significant focus of research. According to researchers, the effectiveness of green policies within a company depends on workers acting on environmental concerns (Felin, Foss, & Ployhart, 2015; Tseng *et al.*, 2013). Green strategies provide direction for collective strategies, which can influence employees' actions and steer them in the right direction. In the same context, a green shared vision is defined as a common and clear direction in order to achieve collective organizational goals and objectives, which are communicated by the organization internally (Chang, 2020).

Environmental performance represents the end result, demonstrating how committed companies are to environmental protection. Various metrics can be used to assess an organisation's environmental performance. These metrics include recycling, waste minimization, emissions prevention, and the release of hazardous environmental material. Introducing an environmental management system will improve climate performance. In terms of environmental efficiency, organizations that adopted environmental-related policies at each stage of their HRM were competitive (Paillé, Chen, Boiral, & Jin, 2014). Employees interested in environmental issues have a greater understanding of them. Furthermore, they have a greater capacity to address environmental issues, resulting in better environmental efficiency (Rothenberg, 2003). Based on the above analysis, this study proposes the following hypothesis:

H1a: *Green employee support positively and significantly relates with environment performance.*

2.4.2. Green Job-Induced Stress and Environmental Performance

The theoretical basis for explaining the link between green employee behaviour and green job-induced stress draws on Demerouti and Bakker's (2011) job-demand resource model, with insights from Hart's (1995) natural resource-based view (NRBV) theory. Demands are aspects of a job that involve sustained physical or mental effort and are associated with some physiological and psychological costs, while resources are aspects of a job that are a) functional in achieving work goals, b) reduce job demands at their costs, or c) stimulate personal growth or development (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). From the foregoing discussion, green employee behaviour can be understood as a job-related "demand" that may result in job-induced stress. New technology that opens new markets, according to Garcia and Calatone (2002), are examples of green employee behaviour. They go on to say that green employee behaviour can occur at both the macro and micro levels, but that macro-level green employee behaviour automatically affects micro-level green employee behaviour. At the macro level, disruptive innovation significantly affects consumers and producers because the latest value proposition disrupts consumer behaviour and newly developed markets influence existing firms' competencies. Nonetheless, green employee behaviour may occur in ways that differ radically from one another. A radical new business concept, technology, product, service, process, or management strategy may drive the disruption. The study suggests that green employee behaviour may first result in internal organizational disruptions, producing job-related stress. Employees should use their job tools to

achieve their work-related goals every working day (Clegg & Spencer, 2007; Daniels, 2006; Totterdell, Wood, & Wall, 2006). Job demands are aspects of the job that can cause strain when the employee's adaptive capacity is exceeded (Rothmann *et al.*, 2006). Physical, social, and organizational aspects of a job that involve continued physical and/or psychological effort on the part of the employee are referred to as job demands. As a result, they are correlated with psychological and/or physical costs (Schaufeli & Bakker, 2004). Based on the above analysis, this study proposes the following hypothesis:

H1b.: *Green induced job stress negatively but significantly relates with environment performance.*

2.4.3. Moderating Role of Institutional Pressures

Politicians, regulators, customers, competitors, and local communities are most likely to directly affect facility environmental practices. Ahmad & Mehmood (2025) distinguished between primary and secondary stakeholders, defining primary stakeholders as those who affect and are affected by an organization but are not involved in its transactions (e.g., customers, suppliers), and secondary stakeholders as those who affect and are affected by an organization (e.g., employees) (e.g., media, NGOs) but are not involved in its transactions (e.g., employees). The former is more important to a company's existence and therefore has more control than the latter, which are less closely related to the company's activities or goals. Buysse and Verbeke (2003) distinguished internal primary stakeholders (employees, shareholders, and financial institutions) from external primary stakeholders (customers and suppliers), concluding that only the former group is driven to take environmental action. Stakeholders drive environmental management. Stakeholders are broadly defined as individuals or groups that can affect or be affected by an organisation's objectives and actions, including governments, employees, customers, suppliers, and communities (Harrison et al., 2022; Greenwood, 2019). As a consequence, stakeholders are the primary drivers of environmental performance. The most important stakeholders are consumers, government officials, the media, businesses, and environmental organizations (Rivera, 2004). Government and business organizations, in particular, have been found to play an important role in promoting voluntary environmental initiatives (King and Lenox, 2000; Delmas, 2002; Rivera, 2004). Cespedes-Lorente *et al.* (2003) described three main reasons firms engage in environmental protection practices from a stakeholder perspective: to gain reputation, respond to institutional pressure, and respond to the various strategies stakeholders use to influence firms' environmental protection activities, in a review of the literature.

According to Alvarez *et al.* (2001), environmental practices are typically adopted in response to increased institutional pressure. Various stakeholders have varying impacts on organizations' environmental protection practices, according to reports (Buysse and Verbeke, 2003; Delmas and Toffel, 2004). Delmas and Toffel (2003) listed institutional, government, consumer, competitive, community, and environmental interest groups, as well as industry stakeholders. It is argued that institutional pressure would moderate the relationships green employee support (or green-induced job stress) and environmental performance, such that the relationship would be more positive and stronger at increasing levels of institutional pressure. The literature provides support for the link between employee support and environmental performance and addressing the needs of multiple stakeholders, such as employees (Margolis and Walsh 2003, Kotler and Lee 2004). Employee support positively affects product quality, which in turn enhances environmental performance (Ahire & O'Shaughnessy, 1998; Jabbour et al., 2019; Testa et al., 2020). Employee support can be perceived by stakeholders, such as regulatory bodies, organizational structures, and employees themselves, as a safeguard or insurance mechanism to protect shareholders' investments and wealth. Accordingly, higher institutional pressure is likely to yield positive outcomes for employees, which ultimately contribute to improved environmental performance. This provides the basis for the following hypothesis:

H2a: *Institutional pressures moderate positively and significantly the relationship between green employee support and environmental performance.*

On the other hand, job-induced stress would lower environmental performance because, other things being equal, job stress adversely affects employees' physical and psychological health, which could result in job dissatisfaction and lower employee motivation, all of which could undermine employee productivity. Therefore, higher job-induced stress from increases in green employee behaviour could undermine employees' capacity to implement green strategies that achieve environmental performance objectives. Meanwhile, institutional literature suggests that firms are likely to face negative consequences, even for employees, when they fail to address stakeholder interests. Given this, resentful employees may be more likely to demonstrate behaviours and attitudes that reduce the firm's capacity to meet environmental performance targets. This leads to the following hypotheses;

H2b: *Institutional pressures moderate positively and significantly the relationship between green-induced job stress and environmental performance.*

3. Methodology

3.1. Description of Study Area

The research model is estimated using data from firms in a major Sub-Saharan African economy – Ghana. Ghana's business environment remains the most attractive setting for doing business in West Africa (African Development Bank Group, 2018; World Bank, 2017). However, numerous factors challenge the sustainability of Ghana's growth prospects and firms' competitiveness. Moreover, experts continue to question the sustainability of Ghana's recent policies and programmes and its growth base (e.g., natural resources). In fact, overdependence on government and its institutions to boost firm competitiveness appears problematic, as they have been unable to sustain reforms and policies over the years (World Bank, 2017).

3.2. Design, Sample Size, and Sampling Technique

The study used stratified sampling to select firms. This technique captured different types of firms, namely small, medium, and large firms. The second stage of sampling used purposive sampling within each organisation to administer questionnaires to managers. Newman (2005) suggests that purposive sampling allows researchers flexibility in membership selection, which helps them address and achieve their study questions and goals. Purposive sampling is justifiable because the respondents were primary informants who could provide the details needed for the analysis. Wolf et al. (2013) defined sample size criteria

ranging from 30 (Simple CFA with four indicators and loads of about. 80) to 450 cases (models of mediation). This study used a sample size of 550, far exceeding the minimum acceptable level for structural equation modelling.

3.3. Data Analysis

The research followed an explanatory deductive method, focused on quantitative evidence. The data were analysed using SPSS version 25 and LISREL version 8.5. The study used descriptive and multivariate analyses with SEM. After obtaining the data, because SEM is sensitive to the distributional characteristics of the data, it was appropriate to screen the data and run preliminary tests to check for normality. Within-scale-item and between-scale-item correlations are evaluated in this section. This stage is required to validate both reflective and formative measures. Unlike formative measures, reflective measures are expected to show substantial correlations between any pair of items within a scale (Diamantopoulos *et al.*, 2008). Exploratory and confirmatory factor analyses in reflective measurement evaluation both assume significant correlations (at least .30) between pairs of items within each scale (Hair *et al.*, 2014; Tabachnick and Fidell, 2013).

Two key findings are worth addressing here. First, the data show strong correlations between each pair of items within each reflective scale; nearly all are above .50. This indicates the scales are factorable and likely have high internal consistency (Tabachnick and Fidell, 2013). Second, the between-scale-item correlations are weaker than the within-scale-item correlations, suggesting that each scale (especially the reflective ones) captures a distinct construct (Hair *et al.*, 2014). Following these findings, the following sections focus on the necessary tests to validate the study's scales. Table 3 shows the bivariate relationships among all observed multi-scale variables in the study.

3.4. Scale Reliability Assessment: Cronbach's alpha test

As discussed earlier, two tests were conducted to assess scale reliability: Cronbach's alpha and composite reliability. This section captures the results of Cronbach's alpha, while the result of the composite reliability test is presented as part of the CFA. From Table 1, the Cronbach's alpha values obtained for this study are all above the minimum threshold of 0.7. Specifically, all the values obtained ranged from 0.846 to 0.961, indicating a high level of internal consistency.

Table 1: Scale reliability test (Cronbach's alpha)

Variables	Number of Items	Cronbach's alpha
1. Green employee support	4	.887
2. Green-induced job stress	3	.909
3. Institutional Pressures	4	.896
4. Environmental Performance	4	.914

Source: by the author

3.5. Scale Validity Assessment: Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) is the primary statistical approach utilised in this study to validate the scales. CFA was applied to all items from the EFA. The same two-stage procedure used in the EFA was used here. The statistical software package used to conduct the analyses is LISREL 8.50. The input and estimation methods are the covariance matrix and maximum likelihood, respectively (Diamantopoulos and Siguaw, 2000; Hair et al., 2014). To assess how well each scale performs (in terms of reliability, unidimensionality, convergent validity, and discriminant validity), the retained items in Section 5.4.3.2 were subjected to further CFA (Boso et al., 2013a). As shown in Table 5, the five- factor CFA model provided a good fit to the data: $\chi 2 = 189.10$, df = 94, normed $\chi 2 = 2.012$, RMSEA = .067, NNFI = .963, CFI = .971, SRMR = .055.

We retained all items from the CFA subset. Each item has a high (i.e., greater than.60) positive loading on its theoretical construct. Furthermore, at the 1% level, the t-values associated with the item loadings are statistically significant. Each scale's average variance extracted (AVE) is above the 0.50 threshold (Hair et al., 2014), indicating that each scale's unique variance is more than 50%. These findings suggest that each of the study's reflecting scales is unidimensional and has strong convergent validity (Hair et al., 2014; O'Leary-Kelly and Vokurka, 1998). Each scale's composite reliability and Cronbach's alpha scores exceed the minimum thresholds of 0.60 and 0.70, respectively, indicating strong internal consistency (Table 1; Hair et al., 2014; Bagozzi and Yi, 2012). According to Hair et al. (2014), a more rigorous test of discriminant validity is to compare each scale's AVE values to the shared variances (or squared correlations) between any two scales.

Table 2: Confirmatory Factor Analysis Results

Constructs, Measures (Composite reliability, average variance extracted, Cronbach's alpha)	Loading (t-value)
Green employee support (CR = .890, AVE = .729, CA = .867). *Regarding the environmental preservation initiatives launched by your company in the previous 3 years, it can be said that…*	
they offered our employees lots of training opportunities	.810(Fixed)
they offered employees more autonomy regarding how they perform their tasks	.860(14.62)
they boosted employee participation in major decision-making processes	.890(15.13)
Green-induced job stress (CR = .926, AVE = .807, CA = .909). *Regarding the environmental preservation initiatives launched by your company in the previous 3 years, it can be said that…*	
our employees struggled to understand such initiatives	.875(Fixed)
they led to several changes in job responsibilities	.876(18.20)
they significantly interrupted how our employees used to perform their tasks	.943(20.36)
Institutional pressure (CR = .877, AVE = .705, CA = .856).	
We feel much pressure from local/national environmental protection laws and regulatory institutions to be environmentally-friendly	.739(Fixed)
Environmental protection activists are particular about environmental issues in our industry	.855(12.66)

Constructs, Measures (Composite reliability, average variance extracted, Cronbach's alpha)	Loading (t-value)
The media constantly reports environmental issues in our industry	.915(13.01)
Environmental performance (CR = .907, AVE = .709, CA = .888). *Today, several stakeholders expect organizations to be sustainable in the area of environmental performance. Based on this expectation, indicate the extent to which your organization has achieved each of the following environmental performance objectives over the past 3 years?*	
Lower fuel/energy consumption	.770(Fixed)
Reduction in air pollution	.917(14.90)
Reduced environmental accidents (e.g., spillage of toxic substances)	.855(13.81)
Decreased consumption of toxic materials	.819(13.12)
Model fit indices: χ^2 = 189.10, df = 94, normed χ^2 = 2.012, RMSEA = .067, NNFI = .963, CFI = .971, SRMR = .055	

Source: By the author

3.6. Structural Model Analysis and Hypothesis Testing

The study's proposed model was estimated using structural equation modelling (SEM) in LISREL (version 8.5), as described by Diamantopoulos and Siguaw (2000), after addressing assumption-related issues and test power, and achieving adequate convergent and discriminant validity. In this study, the research model is used to evaluate the hypotheses. The model is analysed using a two-stage least squares (2SLS) estimator. The hypothesised paths (i.e., directional hypotheses) and the non-hypothesised paths are evaluated at t-value ≥ 1.645 (5% significance level, 1-tailed) and t-value ≥ 1.96 (5% significance level, 2-tailed), respectively (Kothari, 2004).

3.7. Variables in the Structural Model Analysis

Table 2 presents the variables involved in the structural model analysis. For H1, the dependent variable was environmental performance, while the predictor variable was green employee behaviour. Green employee behaviour is linked to environmental performance through green employee support and green-induced job stress (H2 and H3, respectively). Finally, institutional pressures moderate the links from green employee support and green-induced job stress to environmental performance (H4a and H4b). In testing these hypotheses, the study controlled for the potential effects of firm age, firm size, and firm industry (service =1, manufacturing = 0). In stage 1 of the 2SLS estimator, the study regressed the control variables on environmental performance, green employee behaviour on environmental performance, green employee behaviour on green employee support and green-induced job stress, and green employee support and green-induced job stress moderated by institutional pressures on environmental performance to achieve the objective of the study.

Table 3: Descriptive Statistics and Correlations

Variables	1	2	3	4	5	6	7
1. Environmental performance	1						
2. Green induced job stress	-.007	1					
3. Green employee support	.587**	.161*	1				
4. Institutional pressure	.262**	.270**	.349**	1			
5. Manufacturing firms	.207**	.016	-.018	.099	1		
6. Firm size log	.068	-.283**	-.115	-.119	.449**	1	
7. Firm age log	-.148*	-.312**	-.064	-.170*	.090	.412**	1
Minimum	1.714	1.000	1.667	1.000	.000	1.609	.693
Maximum	6.429	7.000	7.000	6.667	1.000	5.030	4.174
Mean	4.575	3.734	4.204	4.034	.225	2.368	2.102
Standard deviation	1.124	1.245	1.189	1.238	.418	.613	.609
Skewness	-.069	.025	.055	-.073	1.328	1.367	-.019
Kurtosis	-.737	-.574	-.786	-.517	-.238	2.410	.058

Note: *p < .05; **p < .01.

Table 4: Main results: Direct and Indirect effects.

Direct effects:	***Unstandardized coefficients (t-values)***		
Variables:	**Green employee support**	**Green induced job stress**	**Environmental performance**
Green employee support (GES)			.578(10.718)***
Green induced job stress (GIJS)			-.122(-2.201)*
Institutional pressure	.234(3.725)***	.066(1.078)	.057(1.109)
Firm size	.048(.323)	-.216(-1.481)	.160(1.331)
Firm age	.033(.255)	-.420(-3.298)***	-.374(-3.505)***
Industry (manufacturing = 1)	-.182(-.928)	.188(.985)	.524(3.338)***
R^2	.204	.310	.443

Direct effects:	***Unstandardized coefficients (t-values)***		
Variables:	**Green employee support**	**Green induced job stress**	**Environmental performance**
F	11.268***	19.758***	24.800***

***Note**:*

1. *$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.*
2. *†5000 bootstrap samples.*
3. *^{1}covariates in models of outcome and mediators are institutional pressure, firm size, firm age, and industry*

Table 5: Main results: Conditional and Indirect Conditional Effects

Variables:	***Unstandardized coefficients (t-values)*** **Environmental performance**		
Green employee support (GES)	.565(10.539) ***		
Green induced job stress (GIJS)	-.064(-1.131)		
Institutional pressure (IP)	.052(.994)		
Firm size	.184(1.565)		
Firm age	-.311(-2.936) **		
Industry (manufacturing = 1)	.552(3.574) ***		
Conditional effects:			
GES × IP	.112(3.045) **		
GIJS × IP	.025(.586)		
R^2	.470		
F	24.389***		
Conditional indirect effects:	***Conditions of IP***	***B***	***95% bootstrap confidence interval***
GES → Environmental performance[1]			
	2.333	.147	.070 to .238
	3.000	.176	.104 to .261
	4.000	.219	.143 to .302
	5.000	.263	.173 to .357
	5.667	.292	.189 to .397
Index of moderated mediation		.044	.015 to .076
GIJS → Environmental performance[1]			
	2.333	-.047	-.125 to .023
	3.000	-.040	-.101 to .014
	4.000	-.029	-.080 to .019
	5.000	-.018	-.091 to .047
	5.667	-.010	-.103 to .074
Index of moderated mediation		.011	-.027 to .050

***Note**:*

1. *^{1}Covariates in models of outcome and mediators are firm size, firm age, and industry.*
2. *†5000 bootstrap samples.*
3. *$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.*

Ordinary least squares regression (OLS) analysis was used to examine the direct effects of green employee behaviour (Marshall *et al.*, 2015), green employee support (Chen *et al.*, 2015), and green-induced job stress (Yi *et al.*, 2010), and the moderating effect of institutional pressures (Dubey *et al.*, 2015). In line with H1a-b, results indicate that green employee behaviour is positively associated with green employee support (β = .309; t = 4.654) and green induced job stress (β = .419; t = 6.462), and that green employee support (β = .578; t = 10.718) is positively and significantly related to environmental performance but induced job stress (β = -.122(-2.201) in turn is negatively but significantly related to environmental performance.

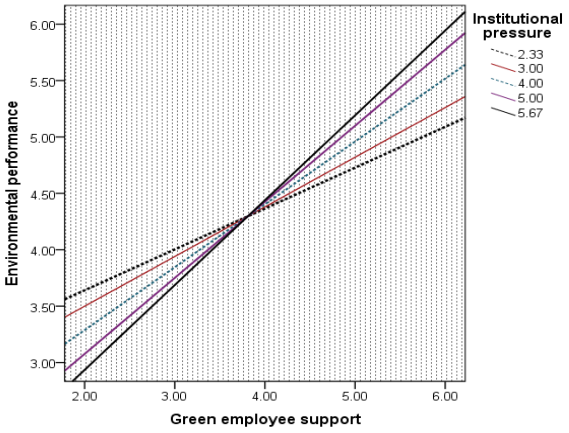
Table 7 further shows that the interaction term for green employee support and institutional pressure (i.e., GES × IP) is positively associated with environmental performance (β = .112; t = 3.045). This suggests that the indirect positive association between green employee behaviour and environmental performance, through green employee support, is stronger when IP is high, supporting H3a. However, results show that the interaction between green-induced job stress and the IP interaction term (i.e., GIJS × IP) is not significantly related to environmental performance (β = .025; t = .586); hence, H3b is not supported at the mean levels of IP. To aid interpretation of, and provide additional insights on, the moderating effect results, the researcher used Johnson-Neyman (J-N) and percentile techniques in Hayes' PROCESS macro to explore the slope of the process/green induced job stress-environmental performance relationships at varying levels of IP (Hayes, 2018).

The J-N analysis shows that the relationship between green employee support and environmental performance is positive and significant only at high IP values (i.e., 5.00 and above). Similarly, the relationship between green-induced job stress and environmental performance is positive and significant only for high values of IP (i.e., 4.00 and above). Again, for the respective ranges of values of IP, we find that the slopes of the relationship between process/product and environmental performance are stronger. The perceptual analysis reveals similar results (see Figure 3 and Figure 4 for details). Overall, these results support

the study's argument in H3a and H3b that high levels of IP amplify the relationship between green employee support and green-induced job stress capabilities and environmental performance.

The researcher further used the PROCESS technique to analyse the indirect and conditional indirect effect components of the conceptual model, as it enables direct testing of the statistical significance of these effects using bootstrapping procedures (Hayes, 2018). Table 8 presents the analytical procedures used and results obtained. It was found that green employee behaviour has significant positive indirect association with environmental performance through green employee support (indirect effect = 0.178; 95% bootstrap confidence interval: 096 to .267) but green-induced job stress has significant negative indirect association with environmental performance through green employee support (indirect effect = -0.051; 95% bootstrap confidence interval: -.104 to -.009), in support of H1a and H1b, respectively.

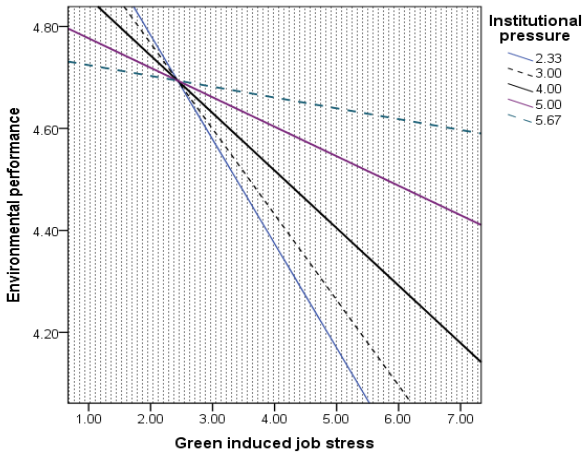
The results also show that IP positively moderates the indirect relationship between green employee behaviour and environmental performance via green employee support, with a moderated mediation index of 0.044 and a 95% bootstrap confidence interval of 0.015 to 0.076. Specifically, the indirect relationship is positive, stronger and significant under high values of IP (i.e., at 1 standard deviation above the mean of IP: β = 0.263, 95% bootstrap confidence interval of .173 to .357) but weaker and insignificant under low values of IP (i.e., at 1 standard deviation below the mean of IP: β = 0.176, 95% bootstrap confidence interval of 0.104 to 0.261), which provides evidence in support of H2a. However, results further show that the negative indirect relationship between green employee behaviour and environmental performance via green-induced job stress is invariant across high and low values of IP.



Note:

1. *Values for institutional pressure are 10th, 25th, 50th, 75th, and 90th percentiles.*
2. *Each slope is statistically significant at the 1% level.*

Figure 3: Graph of the moderating effect of Institutional pressure on the green employee support-environmental performance link.



Note:

1. *Values for institutional pressure are 10th, 25th, 50th, 75th, and 90th percentiles.*
2. *Slopes at the 10th, 25th, and 50th percentiles of institutional pressure are statistically significant at the 5% level.*

Figure 4: Graph of the moderating effect of institutional pressure on the green-induced job stress-environmental performance link.

4. Discussions

The study examined the links between green employee support and green job-induced stress and employee performance, as well as the moderating role of institutional pressure, which cannot be overemphasised. The study focused on finding out if the research model fits within the contexts of transport- and logistics-related firms to measure the variables of the study and test

the relationships among them in a mediation-moderation analysis. The results largely supported H1 (a, b) and H2a, except for H2b. The second hypothesis explored the direct, indirect, and conditional indirect paths from green employee behaviour to environmental performance. Thus, the results show that green employee support positively and significantly relates to environmental performance. The results also show that green-induced job stress is negatively but significantly related to environmental performance. Fourth, institutional pressures significantly strengthen the positive effect of green employee support on environmental performance, but reduce the negative effect of job stress on environmental performance.

As noted earlier, environmental protection has become a major research topic (Banerjee *et al.* 2003). By integrating the core elements with the NRBV, the job demand-resource model, and institutional theory, and by developing a comprehensive model, the study aimed to contribute to the literature on environmental sustainability and environmental protection. Below, the researcher provides a detailed discussion of the theoretical contributions and implications of the findings. Most of the extant research adopts a single-level approach to study environmental management in organizations, at either the organizational level or the individual level (Sharma *et al.*, 2007; Boiral *et al.*, 2009). However, the multiple levels of human activity relevant to the dynamics of environmental protection require greater emphasis on multilevel research (Rousseau, 1985). In this study, the researcher proposed a cross-level model highlighting the importance of business strategy and linking multilevel variables and firms environmental performance. This multilevel approach helps better explore the complex interactions among variables at various organizational levels. Empirical testing of this model makes important contributions to the environmental sustainability literature.

In addition, this study contributes to the sustainability literature by proposing and testing a conceptual model that explains how green employee behaviour influences environmental performance. Given certain external conditions, especially customers' environmental demands and competitors' organisational green initiatives, a firm with strong green employee behaviour should generate superior performance with its emphasis on the integration of organizational efforts to deliver superior environmental performance. Moreover, institutional pressure is an important moderator of these relationships. The study also investigated the extent to which green employee behaviour led to green-induced job stress. Specifically, when firms consistently implement green employee behaviour, there may be instances of employee support and other instances of employee job stress.

Consequently, given the attention on environmental issues, the extent to which employees support or reject firms' green strategies may affect how they achieve environmental performance. Indeed, among the relationships tested in the current study, the researcher has stressed the important effect of a specific moderating variable—the firm's institutional pressures. The relationship between green employee behaviour through either green employee support or green-induced job stress to achieve environmental performance is contingent upon the effect of this moderator. In other words, a significant and positive relationship between green employee behaviour and environmental performance through either green employee support or green induced job is likely to be observed where there is a high level of institutional pressures.

Moreover, the study further differentiates itself from previous studies by explaining the role of green employee behaviour in achieving environmental performance. Specifically, the study assesses the roles of green-induced job stress and green employee support in the green employee behaviour-environmental performance linkage. Finally, the study contributes to the environmental literature by demonstrating the importance of green-induced job stress and green employee support in explaining environmental performance. Past environmental researchers (e.g., Chan 2010; Menguc *et al.* 2010; Shrivastava 1995b) have called for more empirical studies into environment-related sustainability issues. This study responds to this call by theoretically and empirically testing the roles of green-induced job stress and green employee support in enhancing firms' environmental performance.

5. Implications, Limitations, and Future Direction

First of all, although the value of green employee behaviour as a strategic resource has been widely emphasized, managers should understand that green employee behaviour per se may not directly influence environmental performance. Specifically, firms' management should understand the important effects of green employee support and institutional pressures. Only with this understanding can management ensure that green employee behaviour can positively and significantly relate to environmental performance. In other words, only with this understanding can green employee behaviour mediate the relationship between organisational green initiatives and environmental performance. A sustainability-oriented firm should thus first instigate institutional pressures, which, in turn, can help develop and implement effective green employee behaviour and create unique competitive advantages (such as green employee support).

All these are important for achieving superior environmental performance. In other words, firm managers need to recognize that green employee behaviour alone may not be a unique strategic resource for achieving environmental performance; its successful implementation requires complementary resources, such as institutional pressures. A high level of institutional pressures helps build a collective sensitivity to environment-related issues among organizational members, which enables the formulation of a combination of organizational green initiatives, resources, and strategic actions. In other words, only when top management presents a high level of institutional pressures can the members of an organization unite to support green employee behaviour and achieve good environmental performance. Together, green employee support and institutional pressures function as a unique strategic firm resource.

Finally, managers should understand that the environmental outcome of green employee behaviour depends on employee support or participation in environmental efforts. Because green employee behaviour involves participation by organisational members at different levels, managers should coordinate and communicate with all members to motivate engagement in environmental activities. Specifically, managers can involve employees in decision-making on environmental protection and corporate social responsibility (CSR). They can also work with employees to establish targets or objectives for protecting the environment at different levels of their firms. Finally, managers can set up an incentive system to encourage employee participation or support. For example, for those employees who can suggest or recommend good ideas or approaches to protect the environment, managers can give the employees intrinsic rewards (e.g., praises at meetings or internal publications) and/or extrinsic rewards (e.g., financial bonuses). According to research, all these can help improve employees' participation and support, which in turn can lead to increased green-induced job stress and enhanced environmental performance.

6. Conclusions

The study aimed to determine whether the research model fits transport- and logistics-related firms, measure the study variables, and test the relationships among them using a mediation-moderation analysis. The results largely supported H1 (a, b) and H2a, except for H2b. The second hypothesis explored the direct, indirect, and conditional indirect paths from green employee behaviour to environmental performance. Thus, the results show that green employee support positively and significantly relates to environmental performance. Again, the results show that green-induced job stress is negatively but significantly related to environmental performance. Fourth, institutional pressures significantly strengthen the positive effect of green employee support on environmental performance, but reduce the negative effect of job stress on environmental performance.

7. Limitations and Future Directions

The study has inevitable limitations. First, the data sources focused on transport- and logistics-related firms in Ghana across both the manufacturing and service sectors. Although business processes are more salient in manufacturing firms, this study neglected the role of green employee behaviour in environmental performance in other industry types, such as the services industry, which may limit generalizability. In other words, business environments in the transport and logistics industry can differ from those in other industries: demands and requirements also differ, and the ways they affect the environment may differ as well. Therefore, in future studies, it would be interesting to collect data from industries such as maritime and beverage. Second, the respondents were top managers of transport and logistics firms in Ghana, mainly in Accra and Kumasi, and the external validity of the research findings, therefore, remains to be tested. Moreover, environmentally friendly behaviour may differ across sub-industries within other industries (Banerjee et al., 2003).

On the other hand, although the current sample comes from transport and logistics firms in Ghana, the theoretical model is still believed to apply to firms in other parts of the world. The main reason is that the variables tested in this study show no significant differences between Ghanaian firms and those in other parts of the world. Moreover, if green employee behaviour has a positive relationship with firms' environmental performance in other emerging economies in sub-Saharan Africa, the same relationship should hold in developed economies, where customers should have greater demands for environmental protection. Future research could extend this study by collecting empirical data from other countries for validation and comparison.

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