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# Empirical evidence of SMEs' Ecopreneurship Posture, Green Competitiveness, and Community-Based Performance: The Neglected missing linkages of Green Practices

## Abstract

**Purpose:** The purpose of this paper is to investigate the direct and mediation effects of SMEs ecopreneurship posture, green inbound practices, green production practices, green outbound practices, community-based performance, and green competitiveness.

**Design/methodology/approach**: Empirical data for the study were garnered by utilizing questionnaire from Ghanaian manufacturing SMEs. Structural equation modeling, specifically partial least squares is applied to test the hypothesized relationships.

**Findings**: The findings suggest that SMEs ecopreneurship posture, green inbound practices, and green production practices have significant positive effects on community-based performance and green competitiveness. However, while green outbound practices' has a significant effect on green competitiveness, it has no significant effect on community-based performance. Moreover, the mediation result demonstrates that while green inbound practices and green production practices significantly mediates the relationship between SMEs ecopreneurship posture and community-based performance, green outbound practices' does not provide any mediation mechanism through which SMEs ecopreneurship posture influence community-based performance. The result further confirms the mediation roles of green inbound practices, green production practices, and green outbound practices between SMEs ecopreneurship posture and green SMEs ecopreneurship posture and green software substantiation roles of green inbound practices, green production practices, and green outbound practices between SMEs ecopreneurship posture and green software substantiation roles of green inbound practices, green production practices, and green outbound practices between SMEs ecopreneurship posture and green competitiveness.

**Originality**: This research offers novel empirical evidence by exploring the mediation roles of green inbound practices, green production practices, and green outbound practices between ecopreneurship posture, community-based performance, and green competitiveness through the lenses of the natural resource-based view and stakeholder theoretical perspectives.

**Keywords**: Ecopreneurship posture, green inbound practices, green production practices, green outbound practices, community-based performance, green competitiveness

#### **1.Introduction**

Small and Medium-Sized Enterprises (SMEs) are generally recognized as crucial economic drivers in developed and emergent countries, as they play noteworthy roles in employment creations, alleviating poverty, and economic growth. In most emergent countries, SMEs account for a greater percentage of established businesses (Zaato et al., 2020). In Ghana, it is reported that SMEs occupy the largest market share, as they account for approximately 92 percent of established businesses, provide nearly 85 percent of manufacturing employment (Afum et al., 2020; Hagin and Caesar, 2021) and makes an estimated 70 percent contribution to gross domestic product (Zaato et al., 2020). Just as SMEs continue to expand rapidly in most developing countries, concerns for environmental protection issues have been increasing (Baah et al., 2021; Agyabeng-Mensah et al., 2022). Consequently, environmental management has no longer become a buzzword but a thought-provoking reality that have propelled SMEs to integrate green-based actions to run their business based on the triple bottom line (TBL) of sustainability (Afum et al., 2020). Integral to environmental management is the concept of ecopreneurship posture (EP), which has attracted interest from practitioners and researchers (Xiue and Qing, 2021).

Despite the growing literature on EP, previous studies have focused on undertaking systematic literature reviews (Gast et al., 2017; Yadav and Bansal, 2021), its measurement and conceptualization (Wales et al., 2020; Covin and Wales, 2012), and the identification of relevant motivating factors for EP (Font et al., 2016; Alfalih and Ragmoun, 2020); with limited attention given to empirical investigations. Again, the limited studies on EP have been overwhelmingly skewed to understanding the financial outcomes and environmental performance of applying EP. For instance, Jiang et al. (2018) examined whether the relationship between green entrepreneurship orientation, financial performance, and environmental performance is moderated by knowledge transfer and integration and green technology dynamism. Ahmed et al. (2020) also confirmed a positive relationship between entrepreneurial orientation, environmental performance, and energy efficiency. Thus, there is a research gap in existing literature regarding how EP influence community-based performance (CBP) and green competitiveness (GC); which this study seeks to address.

Moreover, the assumption that EP is universally beneficial in terms of improving business outcomes has been empirically challenged. Thus, empirical evidence concerning the link between EP and business outcomes like performance and firm competitiveness lacks a convincing conclusion. While some scholars (Pratono et al., 2019; Xiue and Qing, 2021; Afum et al., 2021) have confirmed that EP leads to improved performance and firm competitiveness, other studies (Leoncini et al., 2019; Jansson et al., 2017) could not find a positive influence of EP on firm growth and competitiveness. The conflicting perspectives suggest that EP could affect performance and competitiveness through the presence of a mediation mechanism. In fact, recent scholars (Wales, 2016; Hughes et al., 2017; Afum et al., 2021) have indicated that exploring mediation mechanisms in the EP-business outcome relationship has largely been ignored in existing literature; hence called for research that investigates the mediation effects in the EP-business outcome relationship. Accordingly, this study fills an important literature gap by exploring the mediation effects of green inbound practices (GIP), green production practices (GPP), and green outbound practices (GOP) between EP-CBP relationship and EP-GC relationship.

Besides, while research on EP and green management practices seem to be flourishing in developed and rapidly growing countries like Germany, Spain, and China (Brändle et al., 2019; Núñez-Pomar et al. 2020; Xiue and Qing, 2021), the current pace of studies on EP and the green theme in the African context remains very slow. Particularly, the works of Zaato et al. (2020) and Baah et al. (2021) have called for more studies on EP and green practices from the African context (especially Ghana) to match the research attention in developed countries. With the fast-growing rate of SMEs coupled with the promising stage of the green theme in the Ghanaian setting (Afum et al., 2021), a study in this direction is very significant for corporate leaders and industrial practitioners. Therefore, the purpose of this paper is to investigate the direct and mediation effects of SMEs EP, GIP, GPP, GOP, CBP, and GC. The present study contributes to the body of literature on ecological entrepreneurship orientation and environmental management by developing a theoretical foundation for linking EP, GIP, GPP, GOP, CBP, and GC following the natural resource-based view (NRBV) theory (Hart, 1995) and stakeholder theory (Freeman, 1984). Building upon the NRBV, we argue that EP is a strategic resource that fosters SMEs' capabilities to capture and guide the application of green practices, which subsequently enriches GC and enhance CBP. Likewise, extending the ST framework, we contend that EP-based firms can prioritize improving CBP and GC by exploiting environmental business opportunities such as the implementation of green practices.

The study is undertaken in the Ghanaian context for the following reasons. First, Ghana has laid down several policies and strategies towards a green economy transition. Apart from being a signatory to a couple of global agreements (Paris Agreement and Kyoto Protocol). Ghana has shown the capacity to transition to a green economy by ensuring that industries support activities towards sustainability (Ali et al., 2021). SMEs EP contributes to adopting green practices and can affect GC and improve CBP in the medium-term or long-term. Second, Ghana has over the years introduced flagship industrialization programs that has led to the establishment of new firms to augment existing ones. Ghana's industrialization drive has brought substantial growth to the manufacturing sector. Third, the environmental pollution affecting the community's quality of life is very rampant and persistently poses enormous challenges on the country's quest to achieve sustainable development targets. The manufacturing sector has frequently been docketed as a leading contributor to emitting pollution. For instance, in 2018, Ghana's environmental performance index based on the report of Yale Centre for Environmental Law and Policy showed that the country scored 49.66% and was ranked 124 out of 180 countries (Index EP, 2018).

This study provides answers to two relevant questions. First, what is the interplay between EP, GIP, GPP, GOP, CBP, and GC? Second, do GIP, GPP, and GOP play mediation roles in the EP-CBP relationship and the EP-GC relationship. Specifically addressing these critical questions fills existing gaps in the literature. The study offers insightful guidelines for managerial levels in the manufacturing SMEs context to improve CBP and GC by strengthening their EP to capture green practices.

The rest of this paper is arranged as follows: The literature review and hypotheses development, leading to the research model (Figure 1) is captured in section 2. The research methodology is addressed in section 3. While section 4 captures the empirical results, section 5 presents the discussion and implications. The final section highlights the conclusion, limitations, and future research directions.

# 2. Literature Review and Hypotheses Development

# 2.1 Theoretical Underpinning

This study draws inspiration from the NRBV and stakeholder theoretical perspectives. As propounded by Hart (1995), the NRBV, which is an extension of the resource-based view theory contends that deploying and developing strategically valuable ecological capabilities are prerequisite for gaining competitive advantage from a proactive environmental strategy. Thus, the NRBV theory explains how firms can derive competitive advantage based on internal and external capabilities. In line with the current study, the NRBV contends that imitable resources such as EP help SMEs to capture green-based practices (Afum et al., 2021), which leads to improvement in CBP and GC (Xiue and Qing, 2021). Unlike the NRBV, the stakeholder theory is based on the premise that stakeholders are critical for an organization's success as they affect the organization's long-term strategic goals, competitiveness, and performance (Freeman, 1984). Hence, explicitly, and directly prioritizing stakeholders' interests into the strategic decisions of organizations is integral for firm performance and competitiveness (Baah et al., 2022). Based on the tenets of ST, competitive advantage and superior CBP can accrue to SMEs that take strategic actions by way of adopting EP to identify and capture green-based practices.

# 2.2 Ecopreneurship Posture, Community-Based Performance, and Green Competitiveness

Academic interest concerning the observable influence of EP on CBP, and GC has scarcely been investigated among scholars. In this study, CBP is directly associated with the external social impact of a firm's activities on the community and customers. EP helps to adopt green practices to address societal concerns, thereby leading to an improvement in community health and safety (Shafique et al., 2021). EP improves firms' capabilities to focus on green-based innovation that improves CBP-based indicators like social reputation and societal well-being (Syrjä et al., 2019). A study conducted by Brändle et al. (2019) disclosed that the entrepreneurial orientation of higher educational institutions in Germany towards risk-taking has a positive impact on social and community-level performance. Núñez-Pomar et al. (2020) further established that entrepreneurial orientation has a direct social impact on sports clubs in Spain. A firm's EP concurrently helps them to pursue green operational efficiencies and attain a winwin relationship with the society, leading to improved social benefits (Afum et al., 2021).

EP allows SMEs to acquire valuable insights towards identifying green business opportunities (Jiang et al., 2018) for product innovation and increased competitiveness. Using a survey method, Pratono et al. (2019) found that green entrepreneurship orientation has a significant impact on the sustainable competitive advantage of Indonesian manufacturing firms. In the Southern Brazil context, de Guimaraes et al. (2018) confirmed that entrepreneurship orientation improves sustainable competitive advantage via cleaner production. Through EP, managers can increase the speed of making strategic decisions, take the lead to adopt green-based initiatives, and create green products, leading to an improvement in GC. Thus, EP serves as an important organizational resource that positively affects firms' competitiveness (Xiue and Qing,

2021). Based on the discussion so far, the following hypothesized relationships are proposed.

H1a: EP has a significant positive effect on CBP.

H1b: EP has a significant positive effect on GC.

## 2.3 Ecopreneurship Posture and Green Practices

As proposed by limited studies (de Guimaraes et al., 2018; Guo et al., 2020), a firm's EP drives them to implement green practices. EP represents how firms are wellpositioned to identify and exploit green opportunities to reduce environmental impacts (Jiang et al., 2018). To fulfil stakeholders' expectations, managers exert considerable efforts towards adopting GIP by seeking collaborations with diverse eco-oriented suppliers to address ecological issues (Cheng, 2020). For instance, ecopreneurshipbased firms can build ties with suppliers to engage in eco-friendly research and development (R&D) and help to develop new eco-friendly materials (Pratono et al., 2019). EP may facilitate changes in organizational practices to accommodate green technologies and other green manufacturing techniques towards improving production processes (Demirel et al., 2019). This demonstrates that EP strengthens firms' capabilities to implement GPP. When ecopreneurship-based firms recognize that their operations are causing dire consequences on the environment, they tend to adopt opportunistic behaviours by proactively deploying green practices (e.g GIP, GPP and GOP) to curtail the environmental woes of their actions (Tang et al., 2014). To stimulate GOP, it is illuminated that EP provides firms with relevant insights into their green marketing, green distribution, and eco-packaging practices (Afum et al., 2022). This study, therefore, argues that EP amplifies the introduction of GIP, GPP, and GOP. Consequently, the following hypothesized relationships are proposed:

H2a: EP reinforces the adoption of GIP.

H2b: EP reinforces the adoption of GPP.

H2c: EP reinforces the adoption of GOP.

#### 2.4 Green Practices and Community-Based Performance

An investigation into the social impact of GIP, GPP, and GOP has not been given the needed attention. Prior studies (Ahmed et al., 2020; Jiang et al., 2018) have concentrated on how green practices affect financial and environmental performance. This study takes a different outlook by addressing the need to investigate the effect of GIP, GPP, and GOP on firms' CBP. Deploying GIP in the form of involving suppliers in firms' environmental objectives helps to address the eco-friendly needs of the community to improve their well-being (Han and Huo, 2020). GIP-based companies can create a collaborative linkage with suppliers for the successful sharing of green ideologies to enhance their social commitments (Afum et al., 2020). Additionally, GIP ensures that firms purchase green inputs for operational purposes to satisfy the eco-friendly demands of society and customers. However, Geng et al. (2017) advance that environmental collaboration with suppliers has an insignificant impact on social outcomes. Despite this view, this study argues that firms can enjoy social benefits (i.e improved CBP) through implementing GIP.

Green production practices (GPP) provide the opportunity for firms to integrate social responsibility into their core business mandates. Through implementing GPP, SMEs

can minimize their production cost and offer value-added eco-friendly products, thereby enhancing social benefits (Afum et al., 2020). GPP does not only reduce the rate of customer complaints for firms' products, but it also improves social reputation by making a firm more appealing to community members and customers (Afum et al., 2020). Abdul-Rashid et al. (2017) reported that sustainable manufacturing processes significantly influence the social performance of ISO 14001 certified Malaysian manufacturers. Thanks to GPP, firms can invest in cleaner technologies that emit less pollution, leading to an improvement in community health and safety (Yacob et al., 2019). In this study, we advance that GPP enables SMEs to improve CBP by meeting societal expectations.

Contemporary firms have become extremely focused on synthesizing GOP (e.g green transportation and distribution, eco-packaging, and green marketing) into their activities due to the constructive social impact of such practices (Agyabeng-Mensah et al., 2021). The application of GOP can strengthen the social reputation and credibility of manufacturers. For instance, manufacturers like IKEA strive to improve community safety and health by deploying sustainable transportation and distribution to minimizes the environmental footprint on the society. For customers, sustainability has become a very significant criterion for purchasing products; hence, the application of green marketing and eco-friendly packaging helps firms to accentuate the green benefits of their products or services (Afum et al., 2022). An empirical study by Ara et al. (2020) unveiled that green marketing (a component of GOP) has a significant positive influence on the social performance of garments manufacturers in Bangladesh. GOP is a dominant green initiative that enhances stakeholders' satisfaction and helps to achieve other social sustainability targets (Fraj et al., 2013). Taking the above argument into consideration, this study proposes the following hypotheses.

H3a: GIP has a significant positive effect on CBP.

H3b: GPP has a significant positive effect on CBP.

H3c: GOP has a significant positive effect on CBP.

# 2.5 Green Practices and Green Competitiveness

Empirical investigation regarding the impacts of GIP, GPP, and GOP on GC is nonexistent. Implementing GIP by collaborating closely with environmentally sensitive suppliers can boost firms' GC because it is strongly believed that eco-oriented suppliers tend to provide firms with green-based market information (Yacob et al., 2019). Many firms acknowledge the need to apply GIP by involving eco-oriented suppliers during the early phase of product development, providing environmental training to suppliers, and buying from ISO-certified suppliers (Zhang et al., 2020). All these GIP-related activities can decrease unnecessary expenses, improve product quality, and help achieve GC (Zameer et al., 2020). Lee et al. (2015) confirmed a significant positive association between green supplier and competitive advantage among Malaysian manufacturers. However, Khaksar et al. (2016) found a negative but significant relationship between green supplier and the competitive advantage of cement companies in Iran.

GPP is a source of competitive advantage, as several customers require firms to offer eco-friendly products. Zameer et al. (2020) confirms that green production has a direct effect on the green competitive advantage of Chinese manufacturers. Likewise, Aboelmaged (2018) disclosed that sustainable manufacturing practices has a positive association with the competitive capabilities of SMEs in Egypt. However, Vargas et al.

(2018) revealed that environmental practices (green purchasing, eco-design, and green manufacturing) have a positive but insignificant effect on the GC of Colombian firms. Implementing GPP has an incremental effect on firms' operational efficiencies and can boost their competitiveness in the long run (Afum et al., 2020). GPP can ensure that firms adopt green technologies and best resources to produce quality products, thereby leading to long-term competitiveness.

Many firms have realized that GOP can serve as an important catalyst for gaining competitive superiority (Agyabeng-Mensah et al., 2021). GOP (e.g green distribution and transportation) tend to reduce environmental harm and increase the competitive position of firms in the market. A study conducted by Mukonza and Swarts (2020) within South Africa's retail sector suggest that it is ideal for firms to apply green marketing practices (an important component of GOP) if they expect to achieve long-term competitiveness. Maziriri (2020) also indicates that deploying green packaging and green advertising provide SMEs with the opportunity to outsmart competitors. Based on the argument so far, this study argues that GIP, GPP and GOP are significant sources for GC. Subsequently, the following hypothesized relationships are proposed.

H4a: GIP has a positive and significant effect on GC.

H4b: GPP has a positive and significant effect on GC.

H4c: GOP has a positive and significant effect on GC.

#### 2.6 Mediation Effects of Green Practices

Previous studies (Jiang et al., 2018; Shafique et al., 2021) have performed moderation analysis on how EP strengthens organizational outcomes. However, no study has explored green practices (GIP, GPP, GOP) as mediation mechanisms through which the influence of EP on CBP and GC is clarified. This study, therefore, fills the existing literature gap by exploring the mediation roles of GIP, GPP, and GOP between the EP-CBP relationship and the EP-GC relationship. Research has illuminated that EP-based firms are more likely to become motivated to apply green practices to their inbound function, production processes, and outbound functions, leading to community wellbeing and improved competitiveness (Li and Huang, 2017). Thus, EP promotes GIP, GPP, and GOP to decrease SMEs negative environmental impacts and improve community health and safety (Tiba et al., 2019).

EP ensures that firms respond to external environmentally conscious stakeholders by deploying GIP, GPP, and GOP, which subsequently lead to improved social reputation and enhanced community health and safety (Guo et al., 2020; Fraj et al., 2013). Moreover, EP guides manufacturers to procure from environmentally sensitive suppliers, implement cleaner production practices, adopt eco-packaging and sustainable distribution (de Guimaraes et al., 2018; Vargas et al., 2018) to boost their GC (Zameer et al., 2020). EP helps firms to recognize opportunities (Sharma et al., 2021) such as green practices to address environmental issues by providing eco-friendly products to increase their competitiveness. Besides, EP-based firms can reduce environmental costs via the application of green practices, which results in GC (Xiue and Qing, 2021). This study contends that implementing GIP, GPP, and GOP serve as indirect mechanisms through which EP influences CBP and GC. Hence, the following hypothesized relationship leading to the mediation analysis are proposed: H5a: GIP mediates the relationship between EP and CBP.

H5b: GPP mediates the relationship between EP and CBP. H5c: GIP mediates the relationship between EP and CBP.

### 3. Research Methods

# **3.1** Sample, Data Collection, Common Method, Non-Response Bias, and Endogeneity Test

Empirical data for the study were garnered from Ghanaian manufacturing SMEs. Manufacturing SMEs were targeted because they are more prone to environmental issues and have over the years been branded as predominant contributors of greenhouse gases (GHGs) emissions and other pollutants that harm the health of workers, community members, and the natural environment. The research team ensured that the targeted firms were familiar with environmental management issues and had implemented green practices for at least four years. A cover letter explaining the primary purpose of the study was sent to these firms prior to the data collection exercise. The confidentiality and anonymity of the participants were assured. A total of 477 questionnaires were distributed via emails to managers in key departmental areas of the targeted firms. Series of email reminders were sent to the targeted respondents. At the end of the data collection exercise, 193 useable returned questionnaires were deemed fit for analysis purposes, signifying a response rate of 40.5%. Averagely, the respondents have had more than 5.8 years of working experience. Table 1 presents the summary of the respondents' profile.

Considering the recommendation of Armstrong and Overton (1977), a t-test computation was done to test for non-response bias (NRB) in this study. The t-test result denoted that there is no significant difference between early wave and late wave. Therefore, NRB is considered a negligible issue in this study. Moreover, the potential threat of common method bias (CMB) was controlled by using Harman's single factor test. After the statistical estimation of exploratory factor analysis (EFA), it was revealed that the possibility of CMB was not a concern in the data set because 36.73% of the total variance was achieved.

In this study, endogeneity was addressed via control variables and gaussian copula approaches (Hult et al., 2018). First, we controlled for several variables that could influence our results. These variables were firm size, firm age and industry type. Second, endogeneity was tested on CBP and GC using gaussian copula approach. The copula coefficients obtained was insignificant, thus suggesting that our study is devoid of possible endogeneity. Fang and Madsen (2013) claim that a major drawback of the Gaussian copula approach is its inability to describe tail dependency, which is ubiquitous in real-world data. However, it is important to highlight that the Gaussian copula is a very useful approach to address endogeneity because it can account for multiple endogenous regressors and further able to handle data with non-normal distributed scores (Becker et al., 2022).

"Add Table 1 here"

#### 3.2 Measurement

This study used a survey questionnaire for data collection. A five-point itemized scale ranging from strongly disagree to strongly agree was utilized to evaluate each variable. The operationalization of the constructs was garnered from existing literature and previously validated scales. The initial questionnaire development was subjected to thorough scrutiny by five practitioners and four academic experts, all of whom were familiar with environmental management practices. Prior to distributing the final

version of the questionnaire, it was validated via a small pilot study. The pilot study helped to refine the questionnaire by eliminating ambiguous and irrelevant questions, receive feedback on the questionnaire's rationality, and check for language comprehensibility. After the research team was satisfied, the final version of the questionnaire was distributed to the participants. The questionnaire was in two parts: first part covered respondents' demographic information and the second captured items measuring each variable. Items for measuring EP were adapted from previous works (Jiang et al., 2018; Xiue and Qing, 2021; Afum et al., 2021). Items for measuring GIP, GPP, and GOP were gleaned from prior studies (Cosimato and Troisi, 2015; Baah et al., 2021). CBP was operationalized using items adapted from Afum et al. (2021) and Asadi et al. (2020). Finally, GC was operationalized using items adapted from Zameer et al. (2020) and Agyabeng-Mensah et al. (2021). The measurement descriptions are presented in Table 2, with its related mean (M) values, standard deviation (Std.), and factor loadings (FL).

The operationalized variables are described as follows:

- EP: A firm-level strategic orientation that connotes the predisposition to pursue and exploit green-based opportunities that yield ecological benefits, economic gains, and social gains via the introduction of green products or services.
- GIP: Integrating suppliers into environmental management and decisionmaking processes by firms. GIP essentially focus on practices like holding awareness seminars and training programmes for suppliers and procuring from environmentally certified suppliers.
- GPP: The adoption of reliable, energy-efficient operational approaches and production systems that curtails negative environmental impact. GPP ensures environmental sustainability in production processes and includes the utilization of cleaner technology processes to make savings in energy, water, and waste.
- GOP: Ecological practices related to the outward movement of products or services from firms to customers. It involves activities like eco-friendly packaging, green marketing, and environment-friendly distribution.
- CBP: The external social impact of a firm's activities on the community and customers.
- GC: A situation in which firms occupy several defensible positions concerning environmental management which competitors cannot replicate, leading to the enjoyment of sustainable benefits.

"Add Table 2 here"

#### 3.3 Analysis

This study applied structural equation modeling, specifically partial least squares (PLS) to test the research model. PLS was applied because it helps to estimate complex models with several constructs and structural paths that are less sensitive to residual distributions. Most importantly, the primary appeal for the application of PLS in this study is that it is a methodological technique that is constructed for making robust causal predictions in the validation of hypothesized relationships (Hair et al., 2019). Thus, it is ideal for predictive purposes to provide causal explanations. By using PLS, we assessed the measurement model and the structural model.

#### 3.3.1 Measurement Model Assessment

To check for reliability and validity issues, the psychometric properties of the model was evaluated. With a tolerable threshold of 0.7 or more (Hair et al., 2019), both Cronbach's alpha (CA) and composite reliability (CR) were considered for evaluating construct reliability. Based on Table 3, the tolerable limits of CA (0.701-0.803) and CR (0.834-0.875) were satisfied. Factor loadings (FL) was used to assess indicator reliability. In this study, all FL values (0.729-0.863) met the allowable limit of 0.7 or higher. With an allowable threshold of 0.5 or more (Hair et al., 2019), average variance extracted (AVE) was used to evaluate convergent validity. From Table 3, all AVE values (0.626-0.699) satisfied the tolerable limit. Finally, Heterotrait-Monotrait (HTMT) ratio was considered to assess discriminant validity. Benitez et al. (2020) propose that the satisfactory limit for HTMT in a well-fitted model should be 0.9 or less. Consequently, Table 4 shows that the HTMT values (0.736-0.899) met the acceptable limit. It can, therefore, be suggested that our model is free from reliability and validity concerns.

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#### **3.3.2 Structural Model Assessment**

The structural model was evaluated by considering the predictive accuracy  $(R^2)$ , predictive relevance ( $Q^2$ ), effect size ( $f^2$ ), and multicollinearity.  $R^2$  concentrates on the explanatory power of the model based on variance explained. Based on Table 5, the structural model explains 64.4% of the variance in CBP, 75.7% of the variance in GC, 40.2% of the variance in GIP, 68.4% of the variance in GOP, and 44.1% of the variance in GPP. The model's predictive relevance was also assessed after performing a blindfolding procedure. The outcome of the blindfolding procedure indicates that the model satisfied the predictive relevance criterion because all Q<sup>2</sup> values were greater than 0: CBP (Q<sup>2</sup>=0.394), GC (Q<sup>2</sup>=0.441), GIP (Q<sup>2</sup>=0.251), GOP (Q<sup>2</sup>=0.454), and GPP  $(Q^2=0.280).$ 

Furthermore, f<sup>2</sup> was computed to provide an explanation as to whether the exogenous construct made any substantial contribution to the endogenous construct. The  $f^2$ benchmarks according to Benitez et al. (2020) are: small effect size ( $0.02 \le f^2 \le 0.150$ ), moderate effect size  $(0.15 \le f^2 \le 0.35)$  and large effect size  $(f^2 \ge 0.35)$ . From Table 6, EP has small effect on CBP ( $f^2 = 0.038$ ) and GC ( $f^2 = 0.074$ ). Conversely, while EP has a moderate effect on GOP ( $f^2 = 2.160$ ), it has large effect on GIP ( $f^2 = 0.373$ ) and GPP ( $f^2$ = 0.388). Additionally, GIP has small effect on CBP ( $f^2 = 0.082$ ) and GC ( $f^2 = 0.129$ ). Likewise, GOP has a small effect on CBP ( $f^2 = 0.040$ ) and GC ( $f^2 = 0.089$ ). Moreover, while GPP has a moderate effect on CBP ( $f^2 = 0.255$ ), it has a small effect on GC ( $f^2 =$ 0.084). Lastly, variance inflation factor (VIF) was considered in assessing multicollinearity. VIF values are expected to be 3.3 or less (Kock, 2017). Hence, from Table 6, the VIF (1.000-3.665) satisfied the cut-off point.

"Add Table 5 here"

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## 4. Empirical Results 4.1 Direct Effects

To test the hypothesized relationships, a bootstrapping procedure with 5000 re-samples was performed. The bootstrapping procedure result is shown in Table 7 and Figure 2. Apart from H3c, all other hypothesized relationships (H1a, H1b, H1c, H2a, H2b, H2c, H3a, H3b, H4a, H4b and H4c) related to the direct effects were supported. Specifically, the results show that EP has a significant positive effect on CBP ( $\beta$ =0.218, t= 2.112, pvalue= 0.035) and GC ( $\beta$ =0.253, t= 3.730, p-value= 0.000). Again, the result specify that EP has a significant positive effect on GIP ( $\beta$ =0.634, t= 11.189, p-value= 0.000), GPP ( $\beta$ =0.664, t= 13.915, p-value= 0.000), and GOP ( $\beta$ =0.827, t= 31.589, p-value= 0.000). Furthermore, the results indicate that GIP has a significant positive effect on CBP ( $\beta$ =0.237, t= 2.815, p-value= 0.005). Moreover, while the results show that GPP has a significant positive effect on CBP ( $\beta$ =0.459, t= 5.016, p-value= 0.000), GOP was found to have an insignificant effect on CBP ( $\beta$ =0.004, t= 0.039, p-value= 0.969). Additionally, the result show that GIP has a significant positive effect on GC ( $\beta$ =0.245, t = 3.754, p-value = 0.000). Moreover, the result indicates that GPP has a significant positive effect on GC ( $\beta$ =0.218, t= 3.599, p-value= 0.000). Finally, the result show that GOP has a significant positive effect on GC ( $\beta$ =0.282, t= 3.449, p-value= 0.001).

#### 4.2 Mediation Analysis

In this study, a mediation analysis (Table 7) was conducted to provide a holistic examination of the causal effects. Thus, GIP, GPP, and GOP were modeled as potential mediators between the EP-CBP relationship and the EP-GC relationship. The mediation technique was done by matching the path coefficients of the direct effects and their respective significance level to that of the indirect effects. This mediation technique is supported by Zhao et al. (2010). The results specify that all the hypothesized relationships related to the mediation effects (H5a, H5b, H5c, H6a, H6b, and H6c) were supported. Explicitly, the mediation analysis shows that GIP fully mediates the relationship between EP and CBP ( $\beta$ =0.150, t= 2.582, p-value= 0.010). Also, the mediation analysis shows that GPP fully mediates the relationship between EP and CBP  $(\beta=0.305, t= 4.771, p-value= 0.000)$ . However, GOP was found to play no mediation role between EP and CBP ( $\beta$ =0.034, t= 0.059, p-value= 0.567). The mediation analysis further revealed that GIP plays a complementary partial mediation role between EP and GC ( $\beta$ =0.156, t= 3.863, p-value= 0.000). Additionally, the mediation analysis indicates that GPP plays a complementary partial mediation role between EP and GC ( $\beta$ =0.145, t= 3.423, p-value= 0.001). Finally, the mediation analysis shows that GOP plays a complementary partial mediation role between EP and GC ( $\beta$ =0.233, t= 3.392, p-value= 0.001).

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#### 5. Discussions and Implications

#### 5.1 Discussions

Consistent with the NRBV and stakeholder theories, this study provides empirical evidence that confirms that SMEs EP has a significant positive effect on CBP. This result is consistent with previous studies (Brändle et al., 2019; Núñez-Pomar et al., 2020) that were undertaken in Germany and Spain, respectively. The current result indicates that EP can be an important resource for SMEs in emergent countries (e.g Ghana) that can substantially improve CBP. A possible reason for the current result could be that when SMEs exhibit a predisposition to exploit green-based opportunities due to their EP, they can significantly improve CBP in terms of enhancing community well-being and enjoy social reputation.

The analysis further established that EP has a significant positive effect on GC. The current result is partially supported by the work of Pratono et al. (2019) where green entrepreneurship orientation was found as a significant precursor of sustainable competitive advantage. The result is also consistent with the assertion that SMEs EP can provide them with the capability to take strategic decisions towards delivering green-based products and reduce environmental cost of operations, thereby boosting GC (Xiue and Qing, 2021; Guimaraes et al., 2018). This result is very important for SMEs in emergent countries (e.g Ghana) to leverage their EP to achieve product superiority, environmental cost advantage and become more capable of environmental management than competitors', thus strengthening their GC.

Another important result is that SMEs EP significantly reinforces the adoption of GIP, GPP, and GOP. These results enrich the literature on green entrepreneurship orientation, in that, it illuminates how SMEs EP affects relevant components of green practices (GIP, GPP, and GOP). The current study is buttressed by the work of Cheng (2020) that highlights the significant role of EP in strengthening firms' capabilities to adopt GIP. Thus, the current result suggests that the EP of SMEs in emergent countries can drive them to seize the opportunity to embrace green supplier involvement in environmental management decisions. Additionally, the current result is consistent with previous works (Tang et al., 2014; Demirel et al., 2019; Shafique et al., 2021) that emphasize the contribution of environmental entrepreneurship orientation in implementing GPP. An explanation to the current result could be that SMEs EP leads to the modification of production processes to accommodate green practices like the application of green technologies to safeguard the natural environment. Again, the current result is compatible with the work of Taghian et al. (2016), in that, SMEs EP motivates them to deploy GOP to address negative environmental impact. Thus, the current result implies that SMEs in emergent countries that have a strong EP may recognize the need to apply GOP when offering products and services.

Additionally, the current study established that while GIP and GPP significantly contribute to an improvement in CBP, GOP has an insignificant effect on CBP. This is an important result that has not been given the necessary attention by previous scholars. The significant effect of GIP on CBP as unveiled in this study is supported by previous studies (Han and Huo, 2020; Afum et al., 2020). However, the result is inconsistent with the work of Geng et al. (2017) that found environmental collaboration with suppliers to have an insignificant impact on social outcomes. Regardless, the current result suggests that SMEs can enhance their CBP via adopting GIP. Thus, the result

advance that GIP creates a possibility for joint creation of new ideas for the development of green products, thereby curtailing customer complaints, boosting social reputation, and subsequently improving CBP.

The result suggesting that GPP has a significant effect on CBP is consistent with the work of Abdul-Rashid et al. (2017) where it was reported that Malaysian manufactures that deploy sustainable manufacturing processes improve their social outcomes. The current result implies that it is very crucial for SMEs in emergent countries to apply GPP as a sustainable approach to mitigate the environmental damages caused by their operations. With GPP becoming a sustainable choice, SMEs can improve community's quality of life and become more appealing through improved reputation, thereby enhancing their CBP.

The result depicting that GOP has no significant effect on CBP is very intriguing, despite the universal consciousness regarding how GOP has been identified as an important determinant for improving social outcomes. In fact, the current result is inconsistent with the work of Ara et al. (2020) that was carried among garments manufacturers in Bangladesh. Other relevant studies (Fraj et al., 2013; Ara et al., 2020) provide a contradictory perspective to the current result by indicating that firms boost their CBP via the deployment of GOP. Despite this perceptive, the current result implies that the GOP of SMEs in Ghana is not generating substantial social benefits for superior CBP. At present, the deployment of GOP among Ghanaian SMEs is in its infant stages; hence, the reason for the insignificant effect of GOP on CBP. For manufacturing SMEs in emergent countries, this result shows that they need to put more effort into designing effective green outbound practices to enjoy medium-term or long-term benefits. Thus, SMEs need to appreciate that they may not necessarily generate immediate social outcomes from implementing GOP.

It is further observed from the result that GIP, GPP, and GOP significantly boost SMEs GC. The significant effect of GIP on GC is partially supported by the work of Lee et al. (2015) which confirmed that green supplier integration influences the competitive advantage of Malaysian firms. The current result is an important insight for SMEs in developing countries because it implies that GIP is a significant source of GC. For SMEs in developing countries such as Ghana, GIP makes it a possibility to integrate green-based information and resources from eco-oriented suppliers during the early stages of product development, so as to offer green products better than competitors.

The statistically significant effect of GPP on GC as disclosed by the current result is consistent with the works of previous scholars (Zameer et al., 2020; Aboelmaged, 2018; Vargas et al., 2018) where green production was found to influence the GC of firms in China, Egypt, and Colombia. The current result implies that GPP is very pivotal for SMEs in emergent countries to improve their GC. Through GPP, SMEs can mitigate the environmental cost of their operations and produce green products, leading to superior GC.

Besides, the result indicates that GOP has a significant effect on GC. This result is supported by the work of Mukonza and Swarts (2020) which highlighted the role of green marketing in achieving long-term competitive advantage in South Africa's retail sector. The current result implies that GOP can be a powerful factor in helping SMEs enjoy green-based competitive superiority.

Finally, another innovative aspect of this study is the result demonstrating that while GIP and GPP significantly mediate the relationship between EP and CBP, GOP does not provide any mediation mechanism through which EP significantly influence CBP. The justification for the insignificant mediation role of GOP between EP and CBP could be attributed to the following reasons. First, customers and the community are not fully knowledgeable of the GOP of Ghanaian SMEs. Second, SMEs with EP have not fully given GOP the needed attention it deserves. These reasons may affect the ability of SMEs with EP to generate favorable reactions (e.g improved reputation and credibility) from GOP to enhance CBP. The result also confirms the mediation role of GIP, GPP, and GOP between EP and GC. The result of the mediation analysis implies that instead of just assuming a direct influence of EP on CBP, EP initially motivates firms to adopt GIP and GPP, which in turn influence CBP. The mediation analysis further implies that the link between EP and GC is not only direct but can better be explained through the indirect mechanisms of GIP, GPP, and GOP.

## **5.2 Implications to Theory**

This research makes important contributions to theory. Following the NRBV and stakeholder theories, this study extends existing literature on ecopreneurship and green practices by developing a novel research model that investigates the relationship between EP, GIP, GPP, GOP, CBP, and GC. Although the NRBV and stakeholder theories have been used as appropriate theoretical lenses to recognize the central role of environmental-oriented policies (Andersén et al., 2020; Iqbal and Ahmad, 2021; Cheng, 2020) in organizations, the applicability of both theories in understanding how EP influences CBP and GC through the mediation mechanisms of GIP, GPP and GOP is empirically unexplored. Consequently, this study makes unique contribution to existing literature by addressing this essential research gap. This study is the first to explore the mediation roles of different components of green practices (GIP, GPP, and GOP) between the EP, CBP, and GC.

Previous studies (Jiang et al., 2018; Shafique et al., 2021) on the ecopreneurship theme examined the impact green entrepreneurship orientation on financial performance and environmental performance, without consideration to GC and CBP. Accordingly, this study fills this gap by adding a fresh perspective to previous studies on green entrepreneurship orientation by examining the effect of SMEs EP on CBP and GC, especially from a developing country context. As the NRBV holds that corporate resources include ecological capabilities, its application in this study helps to explain why SMEs EP is a valuable corporate resource that can inform firms environmental practices to enhance CBP and reinforce GC. This is an extension to the applicability of the NRBV theoretical perspective. Again, the study enriches the stakeholder theory by showing how SMEs achieve green competitive superiority and improve their social outcomes (i.e CBP) when they strategically adopt a robust EP to capture different components of green practices.

Moreover, this study fills existing gap in literature by responding to the call from previous studies (Guo et al., 2020; de Guimaraes et al., 2018; Afum et al., 2021) for investigation into how EP influences green practices. Our study provides new insight on how SMEs EP reinforces the implementation of three key components of green practices (GIP, GPP, and GOP). With previous studies (Baah et al. 2021; Shahzad et

al., 2020) addressing how external stakeholder pressures stimulate the implementation of environmental practices, this study provides a novel perspective to existing literature by emphasizing how SMEs EP is a necessary firm-level and internal proactive strategic disposition that drives SMEs adoption of GIP, GPP, and GOP.

#### **5.3 Implications to Practice**

This study further provides insightful guidelines for managerial levels in the manufacturing SMEs context, especially those from emerging markets like Ghana. First, this study informs SME managers in developing countries about the need to cultivate a robust EP and incorporate its related principles into their business models. SME managers are entreated to reconfigure their internal resources to focus on important activities that strengthen their EP. A robust EP will ensure that SMEs prioritize greenbased opportunities and develop an appropriate green mind-set to fulfil environmental and societal concerns, thereby improving their CBP. Additionally, this study informs SME managers that their inclination towards environmental issues can help track ecofriendly opportunities to lower the environmental cost of products to improve their GC. Moreover, though the study suggests that GOP has no significant effect on CBP, this should not discourage SME managers from rationally investing in GOP. In fact, SME managers should consider the medium-term or long-term benefits that can be accrued from investing in GOP. Furthermore, the result strengthens the decision-making process of SME managers to make the identification and subsequent implementation of green practices (GIP, GPP, and GOP) an integral part of their ecopreneurship culture. This should be a necessary condition since the study has clearly proven that GIP, GPP, and GOP provides a significant indirect mechanism through which SME EP improves GC. This is an indication that instead of viewing EP as an afterthought, managers need to consider it as a crucial strategic choice to transform business processes into green business methods. This will not only help to upgrade competitive priorities but further provide ideal opportunity for SMEs to address the current global challenges to sustainability. Besides, the study provides an important stimulus for managers to liaise with industrial consortium to formulate tailor-made training and development programs to build SMEs green capability to proactively capitalize on green opportunities and enjoy long-term benefits. Last but not least, the study is in the right direction for policymakers (government) to assist manufacturing SMEs by means of offering economic incentives and further enacting practicable green-based policies to help these SMEs thrive in today's environmentally-sensitive and competitive corporate environment. Finally, the findings of this study can influence policy for SMEs operating in emerging markets that have similar business structures like our study context. The study provides an important roadmap for SMEs in other emerging markets to place EP and green practices at the core of their business proposition to leverage their competitiveness and achieve greater impact on CBP. With this, SMEs can highlight their impact on the society and cement their role beyond favoring immediate profitmaking. Through public-private sector dialogue, SMEs in emerging markets can further develop effective policies to explore green-based opportunities to increase their sustainability efforts.

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#### 6. Conclusion, Limitations, and Future Research Directions

Considering the compelling issues of environmental protection, SMEs EP has become more important than ever. EP has become a promising research area in the environmental management domain, and it is argued that embracing EP provides a critical path for SMEs to gain GC and enjoy performance improvement. Consequently, this study addresses the direct and mediation effects of SMEs EP, GIP, GPP, GOP, CBP, and GC. While the mediation effect of GOP between EP and GC is supported in the study, the mediation role of GOP between EP and CBP is not supported in the study. Despite the meaningful implications of the study, the result must be cautiously interpreted. First, the sampled SMEs for the study were garnered in the specific context of Ghana. Hence, future studies can draw conclusions from other emerging economies such as Rwanda, India, and Morocco. Experiences from other geographical contexts may help to produce diverse implications. Future studies can expand our research model s. cond, of GMB, of GIP, GPi unship. Future rest mental turbulence an. chanism of associating Sk. by testing the effect of GC on CBP. Second, even though several helpful measures were taken to reduce the potential threat of CMB, it may still exist. Third, the study only investigated the mediating roles of GIP, GPP, and GOP between the EP-CBP relationship and the EP-GC relationship. Future research can consider other potential moderating variables like environmental turbulence and firm size. This may generate meaningful insights into the mechanism of associating SMEs EP with GC and CBP.

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Profile	Frequency	Percentage (%)
irm Category		
Beverage and Food products	49	25.4
Textile and Fabric products	24	12.4
Chemicals and related products	16	8.3
Rubber and other plastic products	28	14.5
Metals and Roofing sheets	17	8.8
Leather products and processing	33	17.1
Wood, Lumber products, and processing	26	13.5
lob Qualification		
Owner /Director/General Manager	58	30.1
Supply Chain Manager	32	16.6
Production Manager	46	23.8
Procurement Manager	44	22.8
Others	13	6.7
Employee Size	10	0.0
0-50	19	9.8 25.8
51-100	69 74	35.8
101-500 >500	74 31	38.3 16.1
>500 n =Total Sample	<u> </u>	<u> </u>



Variables	Code	Measures	FL	Mean	Std.
	EP1	When facing uncertainty, we typically adopt a proactive posture to catch potential green opportunities	0.836	3.254	0.803
	EP2	Generally, our firm favors a strong emphasis on R&D, technological leadership, and innovations	0.729	3.440	0.856
EP	EP3	Our firm favors a tendency to be a leader, and always introduce green products, service, or technology first	0.785	3.337	0.914
	EP4	In dealing with competitors, we typically initiate green actions that competitors respond to	0.820	3.264	0.844
	GIP1	Our firm collaborates with suppliers to set up environmental objectives	0.835	3.254	0.971
GIP	GIP2	Our firm provides training and organizes awareness seminars for suppliers on environmental practices	0.779	3.269	0.842
	GIP3	Our firm purchases from suppliers that are ISO 14000 certified	0.822	3.197	0.803
	GPP1	Use of cleaner technology processes to make savings in energy, water, and waste	0.795	3.306	0.778
GPP	GPP2	Incorporating environmental total quality management principles	0.855	3.347	0.845
	GPP3	Environmental design considerations and internal recycling of materials within the production phase	0.817	3.332	0.842
	GOP1	Our firm uses environmental-friendly transportation and green distribution practices	0.856	3.409	0.895
GOP	GOP2	Our firm applies green marketing techniques in highlighting the environmental benefits of our services	0.822	3.301	0.883
	GOP3	Our firm give preference to biodegradable packaging	0.830	3.301	0.889
	GC1	Our firm is more capable of environmental management than its major competitors	0.812	3.306	0.836
GC	GC2	The quality of the green products or services that our company offers is better than that of our major competitors	0.735	3.435	0.903
	GC3	The environmental cost of our operations, products or services is lower compared to our major competitors	0.824	3.446	0.863
	CBP1	Improved community health and safety	0.815	3.404	0.895
CBP	CBP2	Enhanced social reputation and credibility	0.863	3.554	0.875
	CBP3	Decrease in rate of consumer complaints and increase in customer satisfaction	0.771	3.244	0.813
		Decrease in rate of consumer complaints and increase in customer satisfaction			
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	Reliability		Validity
Variables	CA (≥0.70)	CR (≥0.70)	AVE (>0.5)
СВР	0.750	0.857	0.667
EP	0.803	0.872	0.630
GC	0.701	0.834	0.626
GIP	0.743	0.853	0.660
GOP	0.785	0.875	0.699
GPP	0.760	0.862	0.676

			HTMT			
			Ratio <0.9			
Variables	1	2	3	4	5	6
1. CBP		1				
2. EP	0.858					
3. GC	0.736	0.732				
4. GIP	0.877	0.815	0.885			
5. GOP	0.834	0.735	0.658	0.776		
6. GPP	0.891	0.847	0.812	0.837	0.710	

# Table 5: Predictive Accuracy and Relevance

	Predictive Accuracy		Predictive
Variables _	R <sup>2</sup>	Adjusted R <sup>2</sup>	Relevance
CBP	0.644	0.637	0.394
GC	0.757	0.751	0.441
GIP	0.402	0.399	0.251
GOP	0.684	0.682	0.454
GPP	0.441	0.438	0.280

	Effect Size (f <sup>2</sup> )				
Variables	CBP	GC	GIP	GOP	GPP
EP	0.038	0.074	0.373	2.160	0.388
GIP	0.082	0.129	-	-	-
GOP	0.040	0.089	-	-	-
GPP	0.255	0.084	-	-	-
6	Multicollinearity		VIF <3.3		
EP	3.553	3.553	1.000	1.000	1.000
GIP	1.924	1.924	-	-	-
GOP	3.665	3.665	-	-	-
PP	2.326	2.326	-	-	-
		25			

-	Cable 7: Direct Effects and Mediation Effect	ts

			Direct Effects			
Hypotheses	Relationships	В	Algebraic sign for β	<b>T-Statistics</b>	P Values	Decision
H1a	EP -> CBP	0.218	(+)	2.112	0.035	Supported
H1b	EP -> GC	0.253	(+)	3.730	0.000	Supported
H2a	EP -> GIP	0.634	(+)	11.189	0.000	Supported
H2b	EP -> GPP	0.664	(+)	13.915	0.000	Supported
H2c	EP -> GOP	0.827	(+)	31.589	0.000	Supported
H3a	GIP-> CBP	0.237	(+)	2.815	0.005	Supported
H3b	GPP -> CBP	0.459	(+)	5.016	0.000	Supported
H3c	GOP -> CBP	0.004	(+)	0.039	0.969	Not Supported
H4a	GIP->GC	0.245	(+)	3.754	0.000	Supported
H4b	GPP -> GC	0.218	(+)	3.599	0.000	Supported
H4c	$GOP \rightarrow GC$	0.282	(+)	3.449	0.001	Supported
			Mediation Effects			
H5a	$EP \rightarrow GIP \rightarrow CBP$	0.150	(+)	2.582	0.010	Supported
H5b	$EP \rightarrow GPP \rightarrow CBP$	0.305	(+)	4.771	0.000	Supported
H5c	$EP \rightarrow GOP \rightarrow CBP$	0.034	(+)	0.059	0.567	Not Supported
H6a	$EP \rightarrow GIP \rightarrow GC$	0.156	(+)	3.863	0.000	Supported
H6b	$EP \rightarrow GPP \rightarrow GC$	0.145	(+)	3.423	0.001	Supported
H6c	$EP \rightarrow GOP \rightarrow GC$	0.233	(+)	3.392	0.001	Supported
						Supported
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			http://mc.manuscript	tcentral.com/ijoem		

