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Environmental sustainability orientation, competitive strategy and financial performance

Albert Danso[1]; Samuel Adomako[2]; Joseph Amankwah-Amoah[3]; Samuel Owusu-Agyei[1]; Renata Konadu[1]

Corresponding author: Albert.danso@dmu.ac.uk

Abstract

Extant research has established that environmental sustainability orientation (ESO) has a positive influence on performance outcomes. Nevertheless, several contingencies tend to affect the strength of this relationship. In this study, we draw on natural resource-based theory to introduce competitive strategies as moderators in the ESO-performance nexus. Using time-lagged data obtained from 269 firms in Ghana, this study finds that firms pursuing the differentiation strategy can positively boost performance outcomes with ESO than without differentiation strategy. We also find that firms can use the low-cost or the integrated strategy to get higher impact on performance with ESO respectively. Based on the results, firms in Ghana do not need differentiation strategy in order to boost the effect of ESO on financial performance. Theoretical and practical implications are discussed.

Key words: Environmental sustainability orientation; sustainability; sustainable development; competitive strategy; stakeholder engagement; financial performance; sub-Saharan Africa, Ghana.

1. Introduction

Since the turn of this century, there has been a burgeoning body of research indicating that

environmental sustainability orientation (ESO) relates to improved firm performance (Amankwah-

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[1] Leicester Castle Business School, De Montfort University, Leicester, UK.
[2] School of Management, University of Bradford, Bradford, UK
[3] Kent Business School, University of Kent, UK.

Amoah et al., 2018; Zailani et al., 2012; Golicic & Smith, 2013; Roxas, Ashill & Chadee, 2017). However, much of the contemporary literature tends to focus on developed-country firms and large corporations, thereby offering very limited or no insights on small firms in developing nations and their environmental orientation activities. Besides small businesses in developing countries lacking key financial resources to implement proactive environmental strategies, they also face institutional voids such as lack of access to financial credit, lack of access to institutional support, and non-existent or poor legal enforcement system, which hamper their ability to compete (see Mair & Marti, 2009). As such, managers of small businesses in these contexts often complain about the adverse effects of environmental sustainability initiatives such as the increasing costs and complexities associated with implementing such initiatives (Schaper, 2002; Rutherfoord et al., 2000; Russo & Fouts, 1997). Although the contingent effects of firms' competitive strategies on the ESO-performance nexus warrant scholarly attention, few scholars have sought to examine the issue.

In this study, we propose a modified theory of ESO-performance nexus by introducing competitive strategies (Acquaah, 2007; Porter, 1980) as contingent variables to explain the conditions under which ESO is potent in driving firm performance. Our contention is that, despite the growing body of research on the ESO-performance nexus (Roxas et al., 2017; Golicic & Smith, 2013), the contingent effects of competitive strategies on this relationship remain largely unaccounted for in the current literature. This research gap is surprising given that competitive strategies can exert varying influences on firms' ability to mobilise and utilise key resources, leading to their successes or failures.

Our study makes three major contributions. First, we contribute to research on corporate environmental strategy (Latan et al., 2018) by integrating insights from the natural resource-based

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theory (Hart & Dowell, 2011) and competitive strategies. Second, our study contributes to the research devoted to strategic orientation of small firms (e.g., AragónSánchez, & Sánchez- Marín, 2005; Covin & Slevin, 1989; Voss & Voss, 2000). Specifically, we show that, when competitive strategies are deployed, the potency of ESO as a driver of financial performance is amplified. This finding extends the scope of previous research as our study was conducted in a context not well represented in the ESO literature. Third, our study deviates from previous studies focusing on multinationals (see Perego & Kolk, 2012; Kolk, 2008) by examining small firms as our unit of analysis.

The rest of this paper is structured as follows. In the next section, the literature on ESO and competitive strategies is discussed as a basis to develop our hypotheses. Following this, the paper presents the methodology, analysis and discussion of findings. Finally, the implications and conclusions are presented.

2. Theoretical background and hypotheses

In strategy and management literature, researchers have argued that a firm's competitive advantage can be derived from its strategic resources (Barney, 2002; Barney & Hesterley, 2006; Grant, 1991; Wernerfelt, 1984). The resource-based view (RBV) (Barney, 1991; Grant, 1991) suggests that these resources are valuable, rare, non-substitutable and inimitable, which can be reconfigured to achieve sustained competitive advantage (Barney, 1991). A recent extension of the RBV is the natural resource-based view (NRBV) of the firm (Hart & Dowell, 2011; Hart, 1995), which posits that firms can obtain competitive advantage by taking into account the problems posed by the natural environment. According to the proposition of this perspective, a firm's ability to develop an environmental sustainability strategy to avert the constraints of the natural environment would enable it to achieve competitive advantage. Indeed, a firm's strategic capabilities directed to solve

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environmental problems such as pollution, product stewardship and sustainability development are likely to bolster its competitive performance (Hart, 1995). However, other researchers contend that excessively focusing on environmental sustainability can introduce additional cost to the firm's operational cost (Roxas et al., 2017). Nonetheless, we argue that ESO can be a source of competitive advantage considered as valuable, rare, inimitable and non-substitutable, which can serve to differentiate a firm from its rivals (Roxas et al., 2017; Chan, 2005). This study focuses on ESO as a form of strategic capability for the firm.

ESO reflects the ability to identify and utilise entrepreneurial opportunities in an ecologically and socially responsible manner (Di Vito and Bohnsack, 2017). The notion of ESO suggests that firms must integrate environmental concerns into their overall strategic orientation (Linnenluecke & Griffiths, 2009). Put differently, for firms to operate successfully, they need to inculcate environmental issues into the strategic direction of the business. The logic of this notion is that firms should make a positive contribution to their natural environment to improve the lives of the people in the society. As such, ESO is of growing importance to firms as the merits transcend from good firm imagery to efficiency (Hart, 1995). Accordingly, firms are able to portray a good image to society by instituting environmentally friendly policies (Amankwah-Amoah et al., 2018). Firms are also able to appraise their value chains to improve efficiency, reduce costs and enhance performance (Hall et al., 2010; Tilley & Young, 2006; Aragón-Correa & Sharma, 2003). Given the benefits that can be derived from ESO, it is considered a firm-level strategic construct that pushes firms to consider, engage in and commit to environmental issues, activities and programmes (Carroll, 1979, 1991). Thus, managers should inculcate ESO into the organisation-wide philosophy, culture and strategic orientation that direct the business's operational goals (Carroll, 1979).

As firms in emerging economies compete among themselves and with foreign firms due to high growth prospects in emerging markets, their ultimate growth depends largely on their ability to formulate and implement a viable competitive strategy. Drawing on the NRBV (Hart & Dowell, 2011; Hart, 1995), and Porter's (1980) competitive strategy, we contend that the adoption of environmental sustainability policies is a necessary but not sufficient condition for firm success. As implied in previous studies (e.g., Porter, 1985), the extent to which firms are willing to spend on production depends largely on their view of value creation. As there are alternative means of value creation (competitive advantage), each of these broad strategies could have an impact on how firms invest in sustainability and ultimately benefit from it. This suggests competitive advantage could play a moderating role in the ESO-performance nexus.

2.1. The moderating effect of competitive strategy

Competitive strategies are concerned about how a firm develops competitive advantage in an industry relative to its competitors. Accordingly, studies in strategy have demonstrated a relationship between Porter's generic strategies and firm outcomes (Campbell-Hunt, 2000) including product innovation performance (Liu & Atuahene-Gima, 2018). As firms in emerging economies embark on proactive environmental strategies that go beyond regulatory compliance, their success in achieving a stronger performance may depend on competitive strategies. These sections discuss how the impact of ESO is contingent on the implementation of Porter's conceptualisation of competitive strategies of low cost, differentiation and integration.

2.2. Low-cost strategy

Previous studies have highlighted the pertinence of pursuing competitive business strategies for firms, especially those interested in improving their environmental sustainability performance

(Figge et al., 2002; Li & Li, 2008). In Ghana, for instance, the pressure on firms as a results of the country signing the UN Sustainable Development Agenda makes it a strategic imperative to engage in environmental sustainability practices. However, prior to adopting a specific environmental sustainability practice, firms have to carefully and strategically explore the different practices in relation to associated post-implementation financial benefits. Indeed, adopting sustainability practices comes at costs to firms (Montabon et al., 2007; Porter, 1980). However, due to the large volume of low-income earners in emerging economies, customers are likely to be price sensitive. Low-cost strategy increases buyer retention through reduced prices (Porter, 1997), which positively impacts on financial performance and enhances the firm's environmental sustainability performance through the promotion of efficient practices. Thus, low-cost strategy is highly appealing (Liu & Atuahene-Gima, 2018; Acquaah & Yasai-Ardekani, 2008). This is likely to offer an opportunity for customers to patronise products at a low price.

However, the implementation of low-cost strategy requires huge resources such as a secured source of raw materials, low-cost distribution channels, and access to finance to increase efficiency of operations. In most emerging economies, these resources are rarely available due to the existence of institutional voids. Thus, firms rely on other strategic orientations such as proactive environmental strategies that strive beyond regulatory compliance to serve as a means to achieve performance (Russo & Fouts, 1997; Hart, 1995). Thus, we hypothesise that:

H1: *The positive effect of environmental sustainability orientation on financial performance will be more positive for firms pursuing the low-cost strategy than for firms that do not pursue the low-cost strategy.*

2.3. Differentiation strategy

Differentiation strategy permits a firm to produce goods or services which are superior, difficult to imitate and often at higher prices compared to its competitors (Porter, 1980). Such superior and rare goods or services create brand loyalty and lead to patronage regardless of pricing. Despite the assertion that most customers would prefer to utilise competitively low-priced products, as stipulated from the perspective of low-cost strategic orientation, others are inclined towards quality and unique products as propounded in the differentiation strategy (Black et al., 2000). For instance, in Ghana, despite the low level of disposable income, customers' preference for high-quality and branded products has increased as a result of exposure to foreign-made products brought about by the economic liberalisation policies (Acquaah et al., 2008). This condition has led to an increase in the differentiation strategy. This strategic orientation has also been argued to lead to sustained competitive advantage because of the uniqueness of the services or products stemming from brand image, technology and customer services (Porter, 1980). These consolidate to lead to brand loyalty, reduce competition and yield increased profits over the long term (Barney & Hesterly, 2006). In the same vein, companies pursuing environmental sustainability are likely to enjoy benefits from this strategic orientation since green products are regarded by most stakeholders to indicate companies' commitment to improving their environmental performance. When promoting high-quality products that are both green and unique, firms can increase their profits margins and overall financial performance from developed customer loyalty. Accordingly, we propose that:

H2: *The positive effect of environmental sustainability orientation on financial performance will be more positive for firms pursuing the differentiation strategy than firms that do not pursue the differentiation strategy.*

2.4. Integrated strategy

The integrated strategy introduced by Dostaler and Flouris (2006) as integrated cost and differentiation strategy creates value by optimising the trade-off between product quality and cost. The integrated strategy permits firms to adapt more easily to macro-economic conditions (Moir & Lohmann, 2018). For instance, in a business environment such as Ghana, the rapid changes in the economic conditions as a result of the economic liberalisation policies means that firms must be more flexible and responsive to pursuit an integrated competitive strategy to be more successful. Considering the diverse benefits associated with both low-cost and differentiation strategies, it is plausible for some firms to opt for the integrated strategy, where the disadvantages of one strategic orientation are counteracted by the advantages of the other (Kim et al., 2004). Li and Li (2008) investigated the impact of integrated strategy on firms in China and discovered that foreign firms record greater financial performance than domestic ones. They argued that such difference is possible only because foreign firms do enjoy greater resource availability in comparison with their domestic counterparts. They further opined that a firm's superior performance achieved after its reliance on integrated strategic orientation is tantamount to existing firm-specific conditions.

Though Porter (1985) was of the view that adopting an integrated strategy only makes companies settle for average performance and sometimes a 'below average' one, this strategy has considerably different implications for suppliers, customers, competitors and other stakeholders. For instance, most customers are likely to desire differentiated quality brands of low competitive prices than being made to select either a low price or a unique product. To buttress its relevance, Pertusa-Ortega (2008) found strong evidence that employing the appropriate integrated strategy provides the necessary organisational settings in terms of flexibility and dynamism for thriving competitive advantage. Accordingly, advancing an integrated strategy creates a neutral ground for

environmentally sustainable activities to be improved at affordable prices without compromising quality of goods or services (Banker et al., 2014; Proff, 2000). This strategic orientation also reinforces a strong cost position and brand image through investments in environmental practices resulting in sustainable greater market share and economies of scale. Based on this analysis, we propose that:

H3: *The positive effect of environmental sustainability orientation on financial performance will be more positive for firms pursuing the integrated strategy than for firms that do not pursue the integrated strategy.*

3. Method

3.1 Research setting

In testing our hypotheses, we use a sample of small and medium-sized businesses (SMEs) operating in Ghana, an emerging sub-Saharan African economy. The choice of Ghana is based on a number of factors. First, in recent times, the country has been engaging in economic transformation as well as open-market policies (Kolavalli et al., 2012). This has led to the country receiving substantial attention in the popular business press. Also, Ghana is seen as a model country for sub-Saharan African economies (Amankwah-Amoah & Debrah, 2010; Julian & Ofori-Dankwa, 2013; Acquaah, 2013). Accordingly, these factors undoubtedly offer a unique opportunity to test how data from this country can contribute to the small businesses literature on how various competitive strategies drive the environmental sustainability and financial performance relationship.

3.2 Sample and data collection

The sampling frame used for the current study was obtained from the Ghana Revenue Authority (GRA) and Ghana Business Directory (GBD) databases. The GRA has a total of 19,800 firms

whilst the GBD has 14,500. In all, 1,000 firms were contacted by phone from both databases. Of this number, 600 were from the GRA database and the remaining 400 from the GBD. We ensured that firms that were contacted were: (1) not part of any company group (independent); (2) owned and managed by an entrepreneur(s); (3) a manufacturer of goods or a service provider; and (4) a for-profit venture that employs a minimum of five and a maximum of 250 full-time employees. In addition to this, each respondent had to have direct executive authority in their respective firm.

The data was collected in two stages, with a one-year time lag. First, CEOs/entrepreneurs of the 1,000 firms were approached in person with a questionnaire to obtain information on ESO and competitive strategy. After two rounds of reminders, we received a total of 386 responses. This represented a 38.60% response rate. We detected that 32 of the questionnaires were incomplete, with missing values. These questionnaires were discarded, leaving 354 usable responses. To mitigate the possibility of common method bias (Podsakoff et al., 2003), the second wave of the survey took place a year after the first. At this stage, only the finance managers of the 354 firms were contacted in person to tap financial performance measures. After two telephone reminders, a total of 308 questionnaires were received from the finance managers. Of this number, we detected that 39 were not fully completed or the finance manager was also the CEO/entrepreneur. Hence, we discarded these 39 questionnaires.

Overall, 269 complete responses across Times 1 and 2 were used in our analyses. This represents a 26.90% complete response rate (i.e., [269/1000] x 100). On average, the firms have been in business for 22 years since their incorporation and have 42 full-time employees. The firms also operate in multiple industries; agro-processing (29%), food and beverages processing (28%), textile and garment manufacturing (21%), security services (12%) and financial services (10%).

Thus, the majority of the sampled firms operate in the manufacturing sector (78%) whilst a few provide services (22%).

3.3 Measure of constructs

All measures used in this study were captured with a 7-point multi-item scale with anchors ranging from 1 = not at all to 7 = to an extreme extent. Details of these multi-item measures are presented in Table 1 below.

Environmental sustainability orientation. We used the three-dimensional scale developed by Roxas et al. (2017) entailing knowledge about environmental sustainability, environmentally sustainable practices and commitment towards environmental sustainability. We measured a firm's knowledge about sustainability with five items whilst a firm's environmentally sustainable practices were captured with eight items. Finally, we measured a firm's commitment towards environmental sustainability with four items. A composite of the three dimensions constitutes the variable score for environmental sustainability orientation.

Competitive strategy. We followed Acquaah (2007) and measured competitive strategy involving low-cost strategy, differentiation strategy and integrated strategy. A firm's low-cost strategy was captured with six items whilst differentiation strategy was measured with seven items. To measure integrated strategy, we created a categorical variable as follows: firms whose composite values for both the low-cost strategy and differentiation strategy were larger than the average of each respective strategy were included as integrated strategy and were coded 1, otherwise 0.

Financial performance. The items measuring financial performance were taken from previous studies (Li & Zhang, 2007; Luk et al., 2008). These self-reported financial performance measures were collected from the firms' finance managers by asking them to compare their

profitability, net profit margin, return on investment, return on assets, return on equity, profitability growth and overall financial performance with rivals in the same industry in the last three years. The performance items were captured on scale with anchors from 1=much worse to 7=much better. We used the perception measures to tap financial performance because firms in Ghana are reluctant to give their objective financial performance details (Acquaah, 2007).

Control variables. We controlled for several other variables that are likely to influence our results. These variables are firm size, firm age, industry, competitive intensity and prior growth. Firm size was measured as the logarithm transformation of number of full-time employees (Sheng, Zhou & Li, 2011). We also measured firm age as logarithm transformation of the number of years since the business was incepted (Akgün, Keskin & Byrne, 2012). Prior growth rate was calculated as the percentage change in sales and employment between 2015 and 2017= [(2015/2017)-1] (Baum & Locke, 2004). We used four items to measure competitive intensity (α = 0.84) (Jansen et al., 2006). Finally, we used a dummy variable with '0' indicating manufacturing industry and '1' indicating service to capture industry.

[Insert Table 1 about here]

3.4 Common method variance, validity and reliability

To establish the reliability and validity of our multi-item measures, we performed confirmatory factor analysis (CFA) utilising the maximum likelihood estimation method in LISREL 8.71. We assessed model fit using the conventional chi-square (χ^2) and other approved fit heuristics. Although we did not obtain data from a single informant, we used the methods suggested by Carson (2007) and Lindell and Whitney (2001) to establish whether common variance affects our results. First, we estimated a combined CFA model for all the multi-item scales with a common method factor modelled to load on all items. We then estimated two competing models: Model 1 was a trait-only model which was allowed to load on its respective latent factor. We obtained results that provide an adequate fit for the data: χ^2/d.f =642.18/392; p < 0.01; RMSEA=0.03; NNFI=0.98; CFI=0.96; GFI = 0.96; SRMR = 0.06. Model 2 examined a trait and method model entailing the inclusion of a common factor that links all the indictors in Model 1 to Model 2. We received acceptable model fit: χ^2/df = 562.10/280; p < 0.01; RMSEA=0.05; NNFI=0.96; CFI=0.92; GFI = 0.95; SRMR = 0.05. We observed that both models 1 and 2 are significant at 1% significance level. Yet the P-value of the test of close fit (RMSEA ≤ 0.05) yields 0.03 and 0.05 respectively. This suggests that an adequate fit of measurement model has been established. Comparing the two models indicates that Model 1 is not significantly different from Model 2.

Second, we followed the approach suggested by Lindell and Whitney (2001) and introduced a marker variable and analysed the correlation between this marker variable and the key constructs of the study. To do this, we used "I enjoy finding solutions to complex problems" as the marker variable, which is a measure of intrinsic interest in entrepreneurship and thus has no theoretical ties with our key constructs. The results of the marker test indicate non-significant relationships, with correlations between the marker variable and other constructs ranging from -0.1 to 0.04. In addition,

our conceptual model involves multiple interaction effects which could make it unlikely for the respondents to form a mental guess about the relationships estimated in this study (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Overall, we believe that common method variance poses no threat to the integrity of our findings.

Next, we examined the reliability and validity of our constructs by using composite reliability (CR) and average variance extracted (AVE) values. We obtained values that are all above 0.60 and 0.50 respectively. Additionally, the percentages of variance explained by the traits measured are larger than the variance explained by the common factor and error. As shown in Table 1, the method and error values show that the amount of variance explained by a common method factor and an error term are not problematic. An inspection of the highest shared variance (HSV) shows that HSVs are smaller than the AVEs in all our constructs. This indicates that reliability, discriminant and convergent validities have been established (Fornell & Larcker, 1981).

[Insert Table 2 about here]

4. Estimation procedure and results

We used hierarchical regression analysis to estimate the research model. First, we estimated the relationship between the control variables and financial performance in Model 1. Second, we entered both the control variables and competitive strategy in Model 2. In Model 3, we examined the effect of ESO on financial performance. Though not hypothesised, we found that the effect of ESO on financial performance is positive and significant ($\beta = 0.16$, $p < 0.01$).

Next, we examined our contingency hypotheses (H_1-H_3). Before estimating the models, we examined the validity of our model by performing additional tests. Our model met the assumptions of equality of variance, independence of the error term, normality of the residuals and multicollinearity. To test the contingency hypotheses, the variables involved in the interaction were mean-centred before the interaction terms were created (Aiken & West, 1991). The potential effect of multicollinearity was examined using the variance inflation factor (VIF) approach. The VIFs obtained ranged from 1.14 to 2.10, which are lower than the threshold value of 10. The results of the VIF test indicated that multicollinearity does not mar the integrity of the results. We utilised sub-group regression analysis to estimate our hypotheses (Acquaah, 2013, 2007; Boyd, 1995).

Table 2 presents the means, standard deviation and correlations among the variables. It shows significant correlations between ESO and two of the competitive strategies (low-cost and differentiation). However, the VIFs of ESO and competitive strategy variables are less than 10 (see Table 3). In addition, ESO significantly correlates with financial performance. This is in line with our expectation. Table 3 presents the results of the hierarchical regression and sub-group analyses to test our hypotheses. Model 1 included the control variables. Model 2 added low-cost, differentiation, and integrated strategies whiles Model 3 included ESO. We observed in Model 1 that firm size negatively relates to financial performance ($\beta = -0.08$, $p < 0.10$). This suggests that,

with regard to the sample firms used, smaller firms tend to have better financial performance than larger firms. As firms grow larger, they may tend to concentrate more on some key performance indicators such as customer satisfaction, which may lead to more loyal existing customers instead of higher sales from increasing customers – thus the negative relationship between firm size and financial performance. In addition, Model 4a shows that industry type is significant for firms pursuing the low-cost strategy ($\beta = 0.09$, $p < 0.10$).

Hypothesis 1 stated that the effect of ESO on financial performance will be more positive for firms pursuing the low-cost strategy than for firms that do not pursue this strategy. In Model 4, we show the results of the impact of ESO on financial performance for low-cost and non-low cost businesses. The results show that the coefficient for ESO at both low-cost and non-low cost firms is positive and significantly related to financial performance ($\beta = 0.29$, $p < 0.01$) and ($\beta = 0.31$, $p < 0.01$) for low-cost firms and non-low cost firms respectively. The results from t-test analyses (Cohen & Cohen, 1983) indicate that the results are not different ($t = -0.19$, $p > 0.10$). Hence, Hypothesis 1 is not supported.

Hypothesis 2 proposed that the positive effect of environmental sustainability orientation on financial performance will be more positive for firms pursuing the differentiation strategy than firms that do not pursue this strategy. We examined the effect of ESO on financial performance across differentiation and non-differentiation firms in Model 5. We found that the coefficient for ESO for differentiation firms differs from that of non-differentiation firms ($\beta = 0.22$, $p < 0.01$ for differentiation firms; $\beta = 0.03$, *ns* for non-differentiation firms). A t-test analysis indicates that the coefficients differ significantly (1.89, $p < 0.05$). Therefore, Hypothesis 2 is supported. Hypothesis 3 argued that the positive effect of environmental sustainability orientation on financial performance will be more positive for firms pursuing the integrated strategy than for firms that do

not pursue this strategy. In Model 6, we examined the effect of ESO on financial performance for both integrated and non-integrated firms. The results show that, for both integrated strategy and non-integrated strategy firms, ESO is positively and significantly related to financial performance ($\beta = 0.26$, $p < 0.01$ for integrated strategy firms; $\beta = 0.29$, $p < 0.01$ for non-integrated strategy firms). A t-test shows no significant differences between the two coefficients. This provides no support for Hypothesis 3.

[Insert Table 3 about here]

4.1 Robustness check

We performed additional analyses to substantiate the robustness of our findings. First, we estimated alternative regression models with firm growth as the dependent variable instead of the financial performance measure. We measured venture growth as the change in the number of employees from 2014 to 2017. We calculated venture growth rate by following previous studies (e.g., Robson & Obeng, 2008; Brouwer, Kleinknecht & Reijnen, 1993). Using the number of employees to measure venture growth is acceptable as it is remembered more readily by respondents and is less vulnerable to inflation than alternative measures such as output, income or assets (Mead & Liedholm, 1998). Results remained largely the same compared to our initial findings.

Second, we re-estimated our regression models by drawing a sub-sample of 90% of the data. According to the logic of this approach (Echambadi & Hess, 2007), multicollinearity will result in unstable regression coefficients when a sub-sample is used to estimate alternative regression models. Our results show that regression coefficients remain stable across the board. This suggests that our results are not affected by multicollinearity.

Third, we assessed the direction of causality between ESO and financial performance by following the approach suggested by Landis and Dunlap (2000). Accordingly, we used financial performance as the independent variable and ESO as the dependent variable. We then utilised sub-group regression analysis to estimate our hypotheses. We found no significant relationships of the reverse interaction terms. Thus, reverse causality has no effect in our data (Cao, Gedajlovic & Zhang, 2009).

5. Discussion and conclusion

Evidence of the impact of ESO on performance has indeed gained considerable attention in the existing literature (e.g., Zailani et al., 2012; Sakala, 2011; Paulraj, 2011). However, while such studies have predominantly attempted to establish this empirical connection between ESO and Performance nexus, research on the extent to which this relationship is driven by competitive strategies remains underexplored. Our empirical study of SMEs in Ghana revealed that firms pursuing the differentiation strategy can positively boost impact on performance with ESO than without differentiation strategy. Our results further indicate that firms can use the low-cost or the integrated strategy to get higher impact on performance with ESO respectively. Moreover, firms can individually achieve greater impact without either of these two strategic orientations (i.e., low-cost and integrated) strategies. The results suggests that, with or without low-cost or integrated strategy, firms in Ghana can be better off than differentiation as far as performance is concerned by executing ESO. In effect (based on the results), firms in Ghana do not need differentiation strategy in order to boost the effect of ESO on financial performance. Since all these results are statistically significant in this study, they are valuable for implementation as firm-level strategy.

The study offers a number of theoretical and managerial implications. From a theoretical perspective, while previous studies (e.g., Roxas et al., 2017; Golicic & Smith, 2013) indicate that

ESO is an important determinant of performance, theoretical specification as well as empirical examination of how competitive strategies drive the ESO-performance relationship remains underexplored. This study addresses this gap in the ESO and strategy literature by integrating the natural resource-based theory and research on sustainability to introduce competitive strategies as an important contingent factor that strengthens the ESO-performance relationship. In doing so, we add to a growing literature on ESO (e.g., Amankwah-Amoah et al., 2018; Roxas et al., 2017; Gatimbu, Ogada, Budambula & Kariuki, 2018). Specifically, these studies contend that proactive pursuance of environmental sustainability is an ideal strategic option for achieving improved performance. We argue that firms can pursue the low-cost or the integrated strategy to yield higher performance with ESO respectively. We also contend that firms that pursue ESO are better off – with or without low-cost or integrated strategy – than differentiation as far as performance is concerned. This suggests that choosing an appropriate generic strategic option is not crucial for enhancing performance for firms pursuing a proactive environmental strategy. Second, prior studies have argued that small firms lack the financial resources to engage in proactive environmental practices without adversely affecting their performance (e.g., Vazquez-Carrasco & Lopez-Perez, 2013; Martin-Tapia, Aragon-Correa & Rueda-Manzanares, 2010; Holland & Gibbon, 1997). In this study, we show that, in spite of their limited resources, small firms can embark on environmental sustainability activities to improve their performance. Specifically, we demonstrate that, when ESO is well developed and deployed, firms pursuing a generic strategy can enhance financial performance irrespective of the type of generic strategy. This finding challenges the traditional logic that small firms in developing economies cannot achieve improved performance when they become environmentally sustainable.

Beyond the theoretical contributions, the study can guide owners/CEOs of SMEs in terms of their adoption of various competitive strategies. Our study suggests that SME owners and managers pursuing environmental sustainability activities are likely to achieve higher financial performance irrespective of the type of generic strategy they adopt. This insight is particularly relevant as it shows the strategic option that boosts the ESO-performance relationship. Moreover, our findings have crucial implications for advanced-economy firms to interact with developing-country firms (Peng, 2003). Specifically, developed-country firms intending to invest in developing economies are likely to understand which strategic orientations can boost performance in developing-country settings such as those in sub-Saharan Africa. Overall, the relevance of the research findings and context clearly indicate that our study is well positioned to extend practical and theoretical understanding relating to the conditions under which ESO-performance relationships are effective.

5.1. Limitations and directions for future research

In spite of the contribution made by this study, our results should be taken as tentative on the basis of a number of reasons. First, one may argue that developing countries do share certain characteristics in common and thus results from this study can be generalised to other developing contexts. However, developing countries may have differences in contextual elements and sustainability challenges which warrant further insight (Boso et al., 2017). In view of this, future study could be extended across a number of developing countries. Second, firms in a developing country context may take on certain competitive strategies beyond the three main strategies examined in this study. We therefore suggest that future studies should examine how other firm competitive capabilities may interact with ESO to improve performance. Third, firms examined in

this study are predominantly SMEs, whose disposition towards sustainability issues could be quite different from that of larger enterprises. Thus, future research could explore how the ESO-performance nexus is driven by competitive strategies by using a sample of both SMEs and larger enterprises. Fourth, whilst this research follows previous studies (e.g., Luk et al., 2008; Li & Zhang, 2007) to capture financial performance with perceptual measures, we recommend that future studies use objective financial data to measure this construct. Indeed, the use of this objective data will help in terms of validating these perceptual measures from the developing countries' context.

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Table 1: Multi-item measures and results of validity assessment

Measure details	Loadings	CR[a]	AVE[b]	Trait[c]	Method[d]	Error[e]
Knowledge of sustainability orientation		0.95	0.59	0.72	0.01	0.27
Knowledge about climate change	0.88(1.00)					
Waste management issues in the city	0.89(26.72)					
Issues about sources of drinking water	0.87(25.56)					
Issues concerning source of electricity	0.81(21.89)					
Environmental protection programs	0.78(16.48)					
Practices of sustainability orientation		0.88	0.67	0.86	0.08	0.07
Practice recycling of wastes	0.92(1.00)					
Water and electricity conservation	0.93(9.56)					
Training on environmental awareness	0.73(8.85)					
Participation in environmental programs	0.95(11.45)					
Low impact manufacturing technology	0.78(9.48)					
Communicate with customers/buyers	0.94(26.45)					
Deal with environment-friendly suppliers	0.76(7.15)					
Sustainability is an integral part of our business plans and operations	0.79(13.34)					
Commitment to sustainability orientation		0.91	0.64	0.79	0.10	0.09
Environmental protection is part of business	0.76(1.00)					
Practices are good for my business	0.76(14.48)					
Gain more customers	0.88(16.23)					
Proud to do business in local community	0.77(14.23)					
Low-cost strategy		0.87	0.72	0.74	0.02	0.23
We offer a broad range of products/services	0.89(1.00)					
We emphasise on operating efficiency	0.73(13.67)					
We offer competitive pricing for products/services	0.66(14.23)					
We forecast market growth in sales	0.65(14.55)					
We control operating and overhead costs	0.83(16.72)					
We use innovation in production processes or service offerings	0.78(15.45)					
Differentiation strategy		0.93	0.74	0.77	0.1	0.22
We develop new products/service offerings	0.75(1.00)					
We upgrade or refine existing products/services	0.93(28.66)					
We emphasise on products or services for high-priced market segments	0.91(27.56)					
We improve existing customer service	0.88(25.28)					
We use innovation in the marketing of products/services	0.76(16.44)					
We advertise and promote products/services	0.78(16.97)					
We build brand and company identification	0.65(14.67)					
Financial performance		0.92	0.63	0.84	0.02	0.17
Growth in profitability	0.94(1.00)					
Return on investment	0.63(7.52)					
Return on equity	0.76(7.45)					

Return on assets	0.74(8.12)					
Return on net worth	0.84(11.22)					
Net profit margin	0.97(11.33)					
Gross profit margin	0.77(7.16)					
Overall financial performance	0.78(16.47)					

Note: [a]CR=Attenuated composite reliability, [b]AVE=Attenuated average variance extracted, [c]percentage of variance explained by constructs, [d]Percentage of variance explained by common method factor, [p]ercentage of variance explained by error.

Table 2: Descriptive statistics and correlations

	Variable	1	2	3	4	5	6	7	8	9	10
1.	Firm size (Employees) [a]										
2.	Firm age [a]	0.02									
3.	Industry dummy	0.04	0.05								
4.	Prior growth	-0.05	0.03	-0.03							
5.	Competitive intensity	-0.02	-0.11	0.14*	-0.08						
6.	Low-cost strategy	-0.11	0.09	0.09	0.06	0.16*					
7.	Differentiation strategy	-0.10	-0.04	0.03	-0.07	0.11	0.19**				
8.	Integrated strategy[b]	-0.12	-0.05	0.06	-0.12	0.15*	0.21**	0.20**			
9.	Environmental sustainability orientation	0.09	0.14*	0.01	-0.13	0.22**	0.12	0.19**	0.13		
10.	Financial performance	-0.04	-0.02	-0.13	0.11	0.14*	0.15*	0.25**	0.11	0.25**	
	Mean	42.23	22.34	0.52	0.10	5.08	4.77	4.35	0.42	4.13	4.14
	Standard deviation	14.11	13.36	0.41	0.15	0.93	1.08	1.06	0.51	0.75	0.76

[b]Dummy variable coded a 1 if both low-cost strategy and differentiation strategy are greater than their respective means, and coded 0 if otherwise
*p <0.05; **p <0.01. [a] Logarithm transformation of original variable.

Table 3: Regression results for ESO on performance and sub-group analysis of the moderating effects of competitive strategies on ESO-financial performance relationship

Variables	Dependent variable=Financial performance (N=269)								
				Low-cost strategy		Differentiation strategy		Integrated strategy	
	Model 1	Model 2	Model 3	Model 4a Low cost (N=103)	Model 4b Non-Low cost (N=166)	Model 5a Differentiation (N=144)	Model 5a Non-differentiation (N=125)	Model 6a Integrated (N=109)	Model 6b Non-integrated (N=160)
Control variables									
Firm age (log)	0.05	0.05	0.07*	0.04	-0.08*	0.05	-0.09*	0.03	-0.02
Firm size (log)	-0.08*	-0.07*	-0.08*	-0.12*	0.03	-0.07*	0.11*	-0.08*	0.09*
Industry dummy	0.07*	0.08*	0.08*	0.09*	0.02	0.02	0.04	0.11	0.03
Competitive intensity	0.09*	0.10*	0.11*	0.14**	-0.08*	0.10*	0.03	0.04	0.14**
Prior growth	0.08*	0.09*	0.08*	0.07*	-0.04	-0.11*	0.13*	-0.02	-0.05
Low-cost strategy		0.14**	0.14**					0.06	0.14**
Differentiation strategy		0.12*	0.12*					0.15***	0.02
Integrated strategy		0.08*	0.09*						
ESO			0.16***	0.29***	0.31***	0.22***	0.03	0.26***	0.29***
Model fit statistics									
Model F	2.76*	3.12**	5.82***	11.29***	5.21***	7.55***	4.35***	9.96***	6.11***
R^2	0.11	0.14	0.18	0.24	0.27	0.29	0.33	0.37	0.41
ΔR^2		0.03	0.04	0.06	0.03	0.02	0.04	0.05	0.04
Mean VIF	1.22	2.13	1.53	1.44	2.39	1.41	1.14	1.22	3.10

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$