CEO sustainability orientation and firm environmental performance: networking and resource contingencies

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Abstract
Although the existing literature supports the relationship between CEO sustainability orientation (SO) and entrepreneurial behaviour, empirical studies exploring how SO drives firm environmental performance (FEP) are lacking. In addition, the potential moderating effects of firm-level factors on this relationship are less understood. We contribute to filling this gap by examining the moderating effects of political connections and financial slack on the relationship between SO and FEP. Using data obtained from 297 small and medium-sized enterprises (SMEs) in Ghana, our results reveal that SO is positively related to FEP. In addition, our results show that the effect of SO on FEP is negative when firms have stronger financial slack and when firms are highly politically connected.

Keywords: *Sustainability orientation; sustainable entrepreneurship; political connections; Ghana; sub-Saharan Africa*

1. Introduction

Over the past couple of decades, researchers have shown substantial interest in sustainable entrepreneurship (Amankwah-Amoah, Danso, andAdomako, 2019; Severo, de Guimarães, Dorion and Nodari, 2015; Sunny and Shu, 2017). A major rationale is that entrepreneurial activities are often associated with environmental problems (Dean & McMullen, 2007). Researchers acknowledge that sustainable entrepreneurship is a major solution to social and environmental problems (Dean and McMullen, 2007; York and Venkataraman, 2010). For example, innovation studies suggest that introducing new products, processes and services to improve human well-being without impacting the environment is crucial for sustainable development (Smith, Voß and Grin, 2010; Vergragt and Jansen, 1993). Thus, entrepreneurs are increasingly adopting sustainable practices in their organisations due to their interaction with the environment (Elkington, 2006). By incorporating environmental sustainability issues into processes and systems, organisations can ensure that their strategy is aligned to the interests of their stakeholders (Danso et al., 2019, 2020; Roxas and Coetzer, 2012). For small and medium-sized enterprises (SMEs), such strategic alignment can potentially distinguish their offerings relative to rival organisations, thereby enhancing their competitiveness (Nidumolu, Prahalad and Rangaswami, 2009).

In spite of burgeoning streams of research on environmental sustainability concerns (Dahlmann and Grosvold, 2017; Roxas, Ashill and Chadee, 2017) and sustainable entrepreneurship (Muñoz and Cohen, 2017; Sunny and Shu, 2017), the question of how individuals' sustainability orientation (SO) relates to firm environmental performance remains underexplored especially in the emerging market context. In addition, there is a fundamental question: if individuals' SO relates to environmental performance, under what condition will this happen? Thus, we identify two such conditions. We argue that, when the financial slack and political connections are stronger, the entrepreneurs' propensity towards firm environmental performance becomes weaker. This issue is particularly important given that developing economies are characterised by institutional impediments/voids such as lack of certainty in government policy, lack of access to institutional support for environmental initiatives and activities, lack of financial credit availability and weak enforcement of vital principles of rule of law (Chung and Luo, 2008; Peng, 2017). These potentially have negative repercussions in undercutting or offsetting any potential gains for adopting environmental SO. Thus, there are compelling reasons to explore these issues in the context of emerging markets. We utilise a survey of 297 entrepreneurs in Ghana, a growing entrepreneurship market, to illuminate our understanding of these important issues.

This study makes several contributions to the literature on environmental sustainability and strategy. First, many of the current scholarly works on SO have sought to explore the relationship between SO and firm performance from the perspective of the firm (Adomako et al., 2019; Danso et al., 2019, Roxas et al., 2017). What is different in the current study is the use of individuals' SO (Kuckertz and Wagner, 2010) to explain how it affects the environmental performance of a firm. Thus, this study advances literature on sustainable entrepreneurship (Kuckertz and Wagner, 2010; Roxas et al., 2017) by focusing on individuals' SO in a developing economy. Second, while past

studies have largely examined corporate political activity (Funk & Hirschman, 2017; Hillman et al., 2004; Lux et al., 2011) and individuals' SO (Kuckertz and Wagner, 2010), these two streams of research have largely developed in isolation. The study deepens current understanding of individuals' SO by examining the moderating effects of strategic political networking activities on the SO – firm environmental performance relationship. This study extends the boundaries of the existing literature by demonstrating that the effect of SO on firm environmental performance may become increasingly low when firms invoke their strategic political networking capability. Third, by incorporating a firm's financial slack as a moderating variable on the SO – firm environmental performance relationship, this paper extends the boundaries of existing corporate social responsibility (Julian and Ofori-Dankwa, 2013) and sustainable entrepreneurship research (Kuckertz and Wagner, 2010; Roxas et al., 2017).

The remainder of the paper is organised as follows. After reviewing the literature on SO and FEP, we set out our empirical setting and approaches to data collection and analysis. This is then followed by analysis of the results. The final section sets out both the theoretical and practical implications.

2. Theoretical background and hypotheses

2.1 Sustainable entrepreneurship

Sustainable entrepreneurship is anchored in the "preservation of nature, life support, and community in the pursuit of perceived opportunities to bring into existence future products, processes, and services for gain, where gain is broadly construed to include economic and non-economic gains to individuals, the economy, and society" (Shepherd and Patzelt, 2011, p. 137). This focuses on addressing environmental challenges through adoption of environmentally friendly policies and initiatives that also allow entrepreneurial ventures to flourish (Schaltegger

and Wagner, 2011). Similarly, Cohen and Winn (2007) conceptualised research on sustainable entrepreneurship as the examination of "how opportunities to bring into existence 'future' goods and services are discovered, created, and exploited, by whom, and with what economic, psychological, social, and environmental consequences" (p. 35). By entrepreneur's SO, we are referring to the sustainability inclinations of the founder or top executives of the entrepreneurial ventures. It is also worth noting that some entrepreneurs tend to have higher SO compared with others.

Although sustainable entrepreneurship is a clearly defined field, extant works on the subject have linked it to market imperfections, leading to a systematic classification of entrepreneurial opportunities that contribute to sustainable development. For example, some researchers have argued that, in defining environmentally sustainable entrepreneurship, negative environmental externalities resulting from entrepreneurial activities cannot be ruled out (Isaak, 1999; Pastakia, 1998). Accordingly, researchers from this school of thought contend that market failures are the main cause of entrepreneurially oriented activities that target social objectives aimed at improving the environment (Cohen and Winn, 2007; Dean and McMullen, 2007). Indeed, sustainable entrepreneurship allows organisations to develop commercially viable firms that help to address environmental and social injustice (Muñoz & Dimov, 2015).

Accordingly, sustainable entrepreneurs aim to realise the sustainability of innovations that target the mass market and offer benefits to the larger part of society. As such, a sustainable entrepreneur is an "individual who holistically integrates the goals of economic, social and environmental entrepreneurship into an organization that is sustainable in its goal and sustainable in its form of wealth generation" (Tilley and Young, 2009, p. 88). In this study, a sustainable entrepreneur is defined as an individual who participates in the development of the sustainable firm. According to Shepherd and Patzelt (2011), sustainable entrepreneurship involves the

development of major elements entailing: sustainability of nature; sustainability of life-support systems and communities; developing economic gains; sustaining non-economic gains to individuals; and providing non-economic gains to society. This paper derives insight from these elements to contend that these entrepreneurial activities are important in pursuing social, economic or environmental objectives when combined in a systematic manner.

Our research model which centres on these issues is illustrated in Figure 1. The figure shows that an individual's SO relates to a firm's environmental performance. In addition, the model indicates that the effect of an individual's SO on FEP is influenced by political connections and financial slack. The following section explains and develops a hypothesis for each of the hypothesised relationships.

2.2 CEO sustainability orientation and firm environmental performance

Environmental SO may reflect the predisposition of the founding entrepreneurs (Kuckertz and Wagner, 2010). By imprinting their care for the environment on their venture, the entrepreneurs also commit slack resources to green activities and environmentally friendly policies. Accordingly, the dwindling of the initial slack resources makes such firms vulnerable to environmental turbulence (Fichman and Levinthal, 1991; Henderson, 1999). Another line of thought contends that environmental SO may pay for firms in terms of reputation and status in the long run (Hart and Ahuja, 1996; Stefan and Paul, 2008). However, given that around 40% of new-venture firms fail to survive past the first year of operations (Taylor, 1999), it is very likely that the benefits of entrepreneurs' SO might not become apparent for many new small firms in their lifetime. This is also exacerbated by the fact that institutional constraints in emerging economies such as inadequate infrastructure, abundant red tape, poor legal system, weak governance regime and lack of

environmental disclosure might curtail any potential gains from SO (Khanna and Palepu, 2010). This is partly due to the resource-constraint settings of emerging economies.

Given that the shortcomings experienced by new firms such as limited market experience and lack of legitimacy limit their ability to compete (Stinchcombe, 1965), additional regulatory requirements on their operations and processes can neutralise any potential positive effects of SO.

Thus, although they have become a "champion of the cause'' the benefits from sustainability investments and orientation might not be enough to counterbalance the negative effects stemming from the adoption of new technology and work practices (see Roxas & Coetzer, 2012). However, notwithstanding the fact that there might be some negative benefits, it is contended here that, over time, SO would yield more benefits, i.e. there will be positive association. Thus, we propose:

> **H1:** *CEO sustainability orientation is positively related to firm environmental performance*.

2.3 Moderating role of political connections

In this study, we focus specifically on social capital delivered by political connections because scholars have identified political connections as a particularly valuable social network for entrepreneurs (Ge, Stanley, Eddleston, and Kellermanns, 2017; Zhao and Lu, 2016). We define political connections as relationships with government and bureaucratic officials. This includes actions such as hiring former ministers and close 'engagement' with politicians. Political networking activity is a key factor of firm non-market strategy (Lux et al., 2011). According to Baron (1995, p. 73), the non-market environment comprises the "social, political, and legal arrangements that structure interactions among companies and their public". Past studies have

suggested that firms can engage in non-market strategies without necessarily seeking to enhance their performance (North, 1990).

However, such activities have potentially negative deleterious effects on other firms' activities and potentially motives for innovating. For focal organisations, engaging in political networking activities could detract scarce resources from innovation-related activities. By squandering scarce resources on political networking, a new venture's competitiveness is more likely to be reduced. In addition, it could also deflect attention away from urgent or necessary reforms and improvement needed in the venture. Although political networking activities are often pursued when the benefits dwarf the costs on the firms' activities (Baron, 1995). Accordingly, we draw from the social networking theory to posit that the positive effect of SO on environmental performance will become negative when firms' strategic political networking activities are higher. A burgeoning social networking literature indicates that the friendships developed by entrepreneurs with political authorities can allow firms to have a competitive advantage (Getz, 1997; Hillman et al., 1999). Entrepreneurs' relationship with political authorities enables them to influence public policy and regulations (Oliver and Holzinger, 2008; Hillman et al., 2004). Hence, entrepreneurs see their relationship with political leaders as an opportunity to achieve the strategic objectives of their companies (Schuler et al., 2004).

In this study, we contend that entrepreneurs may rely on their relationships with political authorities to build and protect the value of their investments, such that not adhering to environmental and sustainability concerns of the population may become less damaging to a firm when it is well connected in public policy-making corridors. Thus, when political networking activities are higher, the impact of greater entrepreneurs' SO on environmental performance would be weakened. Thus, we propose that:

H2: *Political connections will have a negative moderating impact on the relationship between an individual's SO and firm environmental performance.*

2.4 Moderating role of financial slack

Financial slack reflects the degree of liquid assets, such as cash in hand, available to a firm (Kraatz and Zajac, 2001). In this study, we draw from the resource-slack perspective (DeCarolis and Deeds, 1999; George, 2005; Patzelt et al., 2008) to argue that firms with greater levels of slack may not pay much attention to environmental issues. The rationale is that national institutions that regulate and enforce national and international laws and conventions governing firms' environmental activities are underdeveloped in developing economies. As such, firms operating in these economies may be able to manipulate the system and ignore laws that direct them to pay attention to issues concerning environmental sustainability issues. This is likely to influence entrepreneurs in paying less attention to environmentally oriented activities. Further, the idea that there are difficulties in accessing finance in less-developed economies means that entrepreneurs of firms with stronger financial resources could be influenced to stockpile profits and avoid spending on activities relating to environmental sustainability issues. As such, conditions of capital constraints could influence entrepreneurs leading firms with stronger financial capability to manipulate environmental policies due to weak institutional enforcement of environmental regulations in order to save on environmental sustainability expenditures. As such, high levels of financial resources should work to weaken the positive effect of SO on environmental performance. Accordingly, we contend that:

H3: *Financial slack will have a negative moderating impact on the relationship between an individual's SO and firm environmental performance.*

3. Research method

3.1 Sample and data collection

The sample frame for the current study was developed from Ghana's Company Register Database and the Ghana Business Directory (Acquaah, 2007). Ghana was considered an appropriate context to further examine the validity of the study because, despite recent impressive economic growth in recent years, the country is a typical sub-Saharan African economy with many social and environmental problems such as poor waste management systems, exponential rise of e-waste and limited government support of recycling (Adomako, Ning, and Adu-Ameyaw, 2020).

The sample was made up of privately-owned manufacturing firms employing fewer than 250 full-time employees and with an annual revenue of less than US$250 million (Ghana Statistical Service, 2006). A sample of 1100 firms from the Registrar General's Department and the Ghana Business Directory were contacted via the telephone to take part in the study.

Data were collected in two waves. In the first wave, questionnaires were issued through hand delivery to all the 1100 owner-managers/entrepreneurs who had taken part in the start-up phase of the business. We received a total of 385 completed questionnaires, which represents a 35% response rate. To ensure that the data were collected from the right firms, a sample of the data collected from the field was taken and checked with founders/entrepreneurs who participated in the survey.

In the second wave, questionnaires were distributed to health and safety/environmental managers of the 385 firms that took part in the first survey. This was done to capture environmental performance measures. After several rounds of reminders, 309 complete responses were received from these managers. After matching the first survey (T1) with the second survey (T2), it was detected that 12 of the entrepreneurs were also acting as health and safety/environment managers.

As such, these 12 questionnaires were removed. Hence, 297 complete responses across T_1 and T_2 were used for the analysis. This represents a 27% effective response rate (i.e. [297/1100] x 100).

In general, the firms that took part in the study were relatively young and had been in business for nine years since their inception. Averagely, the firms were aged nine years. The firms had an average of 19 full-time employees with an annual turnover of US$658,000. The entrepreneurs' average age was 52 years. To address non-response bias in the data, early and late responses were compared on key variables (firm size, firm age, founders' age, education, and gender) and no significant differences were found. This suggests that non-response bias was not a problem in the study (Armstrong and Overton, 1977).

3.2 Measure of constructs

The constructs used in this study were taken from previous studies. All items except financial slack were measured on a seven-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. *CEO sustainability orientation* (α = .95) was measured by adapting a six-item scale from Kuckertz and Wagner (2010). *Political connections* (α = .95) reflect relationships derived from government officials and politicians (Acquaah, 2007). This construct was measured with four items from Acquaah's (2007) study. We followed Voss, Sirdeshmukh and Voss (2008) and used the firm's cash reserves at the end of the 2015 financial year to measure financial slack. We controlled for firm size by dividing cash reserves by the venture's total expenses in the 2015 financial year. *Firm environmental performance* (α = .88) was measured by adapting seven items from Russo and Fouts (1997).

Control variables. We controlled for a number of firm-level variables to account for their effects on the dependent variable. These firm size, firm age, gender, founders' age, and education. Firm size was measured by using the logarithm of the number of employees, whilst firm age was measured as a logarithm of the number of years since a firm's inception (Akgün, Keskin and Byrne,

2012). Gender was controlled for as a dummy variable (0 = male; 1 = female). Finally, we controlled for *founder/CEO age* and *education* ("1" = "high school", "2" = "associate degree", "3" = "bachelor's degree", "4" = "master's degree", and "5" = "doctoral degree").

3.3 Common method variance, validity and reliability

We followed Cote and Buckley (1987) to test for potential common method bias in the data. Hence, three competing method models were estimated. First, a trait-only model was estimated to allow all indicators to load on a single latent factor (χ_2/df = 8014.83/1104 = 7.25; RMSEA = .142; NNFI = .20; GFI = .78; CFI = .27; TLI = 89). Second, a method-only model was estimated where each factor was allowed to load on its respective latent factor (χ_2/df = 1401.34/977 = 1.43; RMSEA = .29; NNFI = .92; GFI = .96; CFI = .93; TLI = .91). Third, the trait and method models were combined to estimate a trait-method model. In this model, a common factor linked to all the indicators in Model 2 was estimated (χ_2/df = 1301.03/889 = 1.46; RMSEA = .027; NNFI = .95; GFI = .95; CFI = .92; TLI = .94). To assess whether common method bias was a concern in the data, a comparison was made with all the three models. Results suggest that Model 2 and Model 3 are better than Model 1, and Model 3 is not materially better than Model 2. This indicates that common method bias is not a concern in the data (Cote and Buckley, 1987).

Insert Table 1 about here

Subsequently, we performed a confirmatory factor analysis (CFA) using the maximum likelihood estimation technique to establish the reliability and validity of the multi-item constructs. The LISREL 8.5 software package was used for the analyses. The results of the CFA revealed that the composite reliabilities were higher than the standard threshold value of .70 (Lattin, Caroll and Green, 2003). Convergent validity was established because each factor loading was greater than

the conventional threshold value of 0.40 (Anderson and Gerbing, 1988). To establish discriminant validity of the constructs, average variance extracted (AVE) of each construct was compared with the shared variances between constructs. The results of this test indicate that AVEs were greater than the shared variances between the constructs. This indicates that discriminant validity has been established (Fornell and Larcker, 1981).

4. Results

We used hierarchical regression to analyse the data. When evaluating contextual and configuration models, hierarchical regression has been found to be useful (Cohen et al., 2003). The variables were mean-centred before the interaction terms were created (Aiken and West, 1991). The potential effect of multicollinearity was examined using the variance inflation factor (VIF) approach. The VIFs obtained ranged from 1.05 to 2.18, 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. Consequently, the mean-centred values were used to plot the interactions (Dawson and Richter, 2006).

Table 1 provides the means, standard deviations and correlations between the constructs. Table 2 contains results of the study. In Model 1, all the control variables were entered. Model 2 included the main effect of SO on firm environmental performance whilst Model 3 included the moderating variables. Model 4 incorporated the interaction of SO and political connections (SO x PC) whilst Model 5 included financial slack (SO x FS). Model 6 estimated a three-way interaction effect of SO, political connections and financial slack.

In Hypothesis 1, we argued for a positive link between SO and environmental performance. In Model 1, we confirmed this hypothesis because a significant regression coefficient for SO was obtained ($\beta = .22$, $p < .01$).

Insert Table 2 about here

Hypothesis 2 argued that the positive relationship between SO and FEP is negative when SO and political connections are high. Hypothesis 2 did receive support because the product term involving SO and political connections (i.e., SO x PC) is negative and significant for environmental performance ($\beta = -.16$, $p < .01$). As shown in Figure 1, the relationship between SO and environmental performance is negative for individuals with more extensive ties to government officials and politicians. Simple slope analyses indicate that the relationship between SO and environmental performance is significant when political connections are low but not when they are high. Therefore, the results support H2.

Insert Figure 1 about here

In Hypothesis 3, we contended that a firm's financial slack resources would have a negative moderating impact on the SO – firm environmental performance linkage. This hypothesis did receive support because the interaction of financial slack with SO (Model 5) is negative and significant at 5% for FEP ($\beta = -.14$, $p < .05$). Furthermore, Figure 2 shows that the positive relationship between SO and FEP is negative for firms with stronger financial slack. Simple slope analyses reveal that the relationship between SO and FEP is negative when firms possess stronger financial slack but not when it is weak. This supports H3.

Insert Figure 2 about here

Model 4 includes the three-way interaction variable of SO, political connections, and financial slack. The three-way interaction coefficient is negative and significant ($\beta = -.45$, $p < .01$). Figure 3 plots the three-way interaction utilising the approach suggested in previous studies

(Cohen et al., 2003; Dawson and Richter, 2006). Data points for plotting figures 1, 2 and 3 were computed using +/- 1SD for SO, political connections, and financial slack.

Insert Figure 3 about here

4.1 Robustness analyses

We undertook several analyses to ensure the robustness of our findings. First, we re-estimated our hypotheses using a structural equation modelling (SEM) approach. The fit heuristics for the model (χ2/df = 1.31, RMSEA = 0.02, CFI = 0.98, AGFI = .95, SRMSR = .05) show excellent fit. Thus, our results using the SEM approach replicated our initial regression findings. Second, we estimated an alternative regression model with environmental expenditure (i.e., total expenditure on environmental-related activities yearly) as the dependent variable instead of perceptual environmental performance measure. Our results remain largely the same as the effects of SO on environmental expenditure (β = .18, p < .01), SO x political connections (β = .18, p < .01), SO x financial slack (β = -.17, p < .01) and SO x political connections x financial slack (β = -.33, p < .01) retained their respective significance levels.

Third, we examined the direction of causality between SO and firm environmental performance. Utilising the approach suggested by Landis and Dunlap (2000), we set environmental performance as the independent variable and SO as the dependent variable. We then estimated the interactive effect of environmental performance and the moderating variables (political connections and financial slack) on SO. Our results reveal that environmental performance has no effect in SO. In addition, none of these reverse interaction terms are significant. Hence, we are confident that reverse causality is not a concern in our study.

Moreover, to further test whether multicollinearity influences our results, we extended our analysis beyond the usually examined mean-centring to the inspection of interfactor correlations

and VIF values. To do this, we followed Echambadi and Hess (2007), re-estimating the regression models by randomly drawing 90% of the subsample, contending that multicollinearity will result in unstable regression coefficients. Our results remain unchanged, indicating that our findings are not influenced by multicollinearity.

5. Discussion and conclusion

In this study, we show the direct positive impact of CEO's SO on firm environmental performance and negative moderating effects of political connections and financial slack on this relationship. We find that SO positively affects environmental performance. In addition, we find that political connections and financial slack negatively moderate the relationship between SO and environmental performance.

This study has several theoretical implications. First, we show that entrepreneurs who are concerned about sustainability issues are likely to drive stronger firm environmental performance. Although individuals who are concerned about environmental sustainability may face numerous challenges in a developing country context, including underdeveloped infrastructure and poor government protection policies, our study revealed that such orientation drives environmental performance of firms. Thus, our study contributes to research on sustainable entrepreneurship (e.g., Schaltegger and Wagner, 2011; Muñoz and Cohen, 2017). Thus, we show that the founding entrepreneurs' orientation towards the environment helps new ventures to take sustainability issues seriously. This is in line with the argument that the predisposition of the founding entrepreneurs is crucial in sustainable entrepreneurship (Roxas and Coetzer, 2012). This shows that an entrepreneur's values, beliefs and care regarding the environment are important characteristics that can help the entrepreneur to commit additional resources to green activities and environmentally friendly policies.

Second, by demonstrating how political networking activities can impact entrepreneurs' SO on environmental performance, we integrate the social networking and sustainable entrepreneurship literature. Past studies have paid limited attention to how political networking activities enhance or weaken the effect of SO on FEP. However, the entrepreneurship literature shows that entrepreneurs' use of their networks helps to mobilise resources to exploit opportunities (Fang, Chi, Chen and Baron, 2015). Whilst this brings positive outcomes to the firm, our study shows that entrepreneurs' political networking activities negatively influence the effect of SO on FEP. Thus, we fill a major gap in the sustainable entrepreneurship literature.

Third, the paper adds to previous research on environmental SO (Kuckertz and Wagner, 2010; Roxas and Coetzer, 2012; Roxas et al., 2017) by integrating financial slack as a contingent factor of the link between SO and FEP. Specifically, we show that at higher levels of financial slack the positive effect of SO on FEP is negative. By doing so, we indicate when SO is less effective in driving FEP

This study also has some practical implications. First, given that entrepreneurs in developing country settings tend to possess fewer resources compared with large firms (Bonardi and Keim, 2005), there is a need for entrepreneurs to act in a collective manner to amplify their voices and increase their influence on the environment. A major practical implication is that increasing the environmental impact of SMEs is a crucial success factor for policy makers to achieve greening economies. In addition, by improving their environmental performance, SMEs may be able to attract foreign investors and partners. Second, by paying special attention to the environment, firms would be able to curtail any negative impact on their activities. Our results suggest that the CEO's orientation towards the environment relates to the firm's engagement in environmental activities. This is crucial for policy makers as it could help reduce the need for policy intervention concerning the environment. This suggests that governments in the global

south could focus on promoting SO as an asset rather than a liability. By eliminating unnecessary regulatory burdens, red tape and compliance with unnecessary regulatory costs related to green initiatives, governments can create conditions and provide incentives for more entrepreneurs to gravitate towards SO.

6. Limitations and directions for future research

The study has some limitations. First, it used a sample from one country, which can impinge on the generalisability of the findings. The sample of this study is small and medium-sized organisations, which makes it difficult to generalise the findings to large firms. Future research could seek a much larger sample from multiple emerging economies. Such an approach would help to assess the generalisability of the results. Given that 'sustainable entrepreneurs' are often hamstring by government regulations, lack of market power and resource constraints of incumbent firms (Pinkse and Groot, 2015), it might be worthwhile for future research to explore barriers to transition to a green economy that hamper the development of new ventures in that sector. We hope this study helps to foster new lines of research on the relationship between SO and firm performance especially in developing countries.

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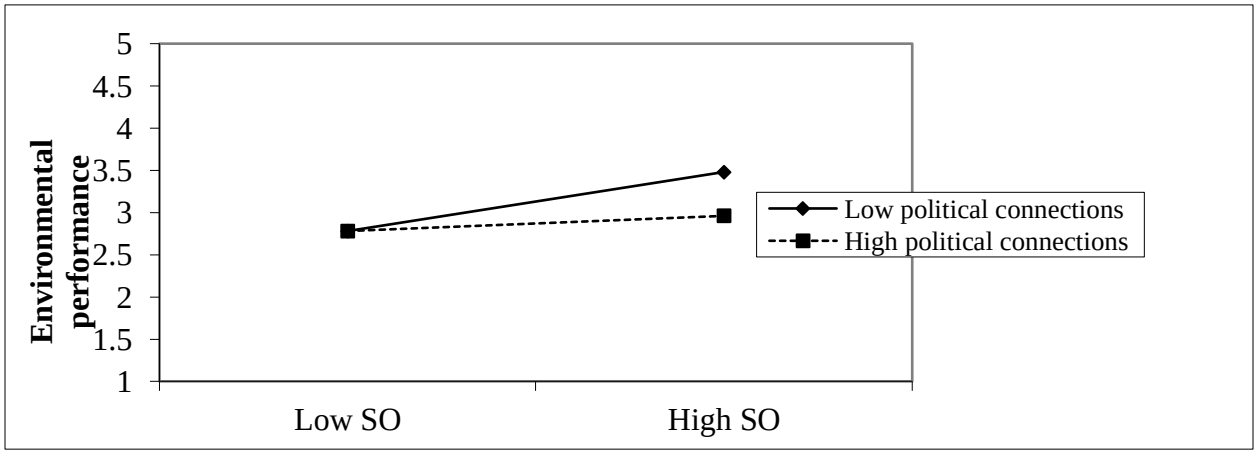

Figure 1 Interaction effect of SO with political connections on FEP

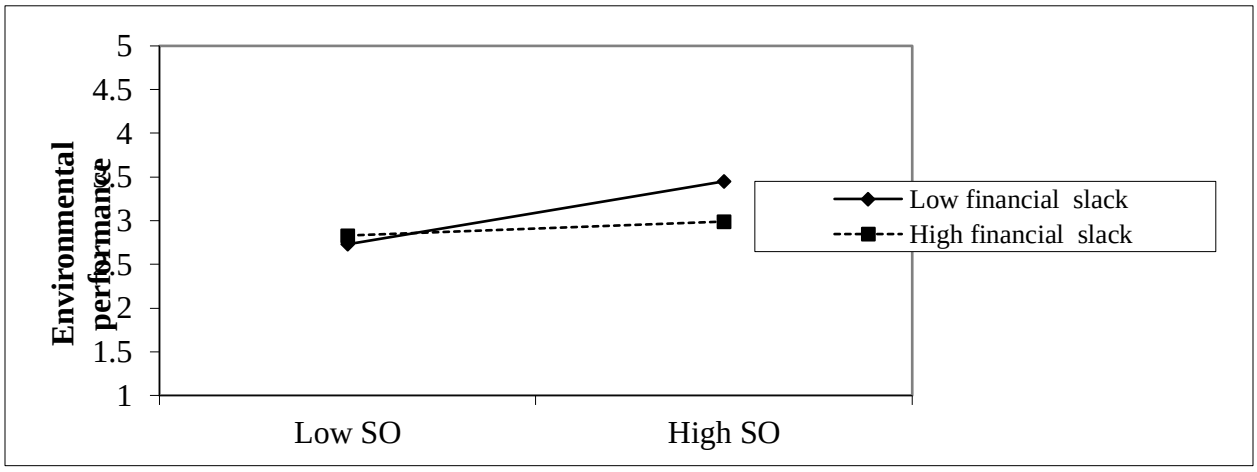

Figure 2: Interaction effect of SO with financial slack on FEP

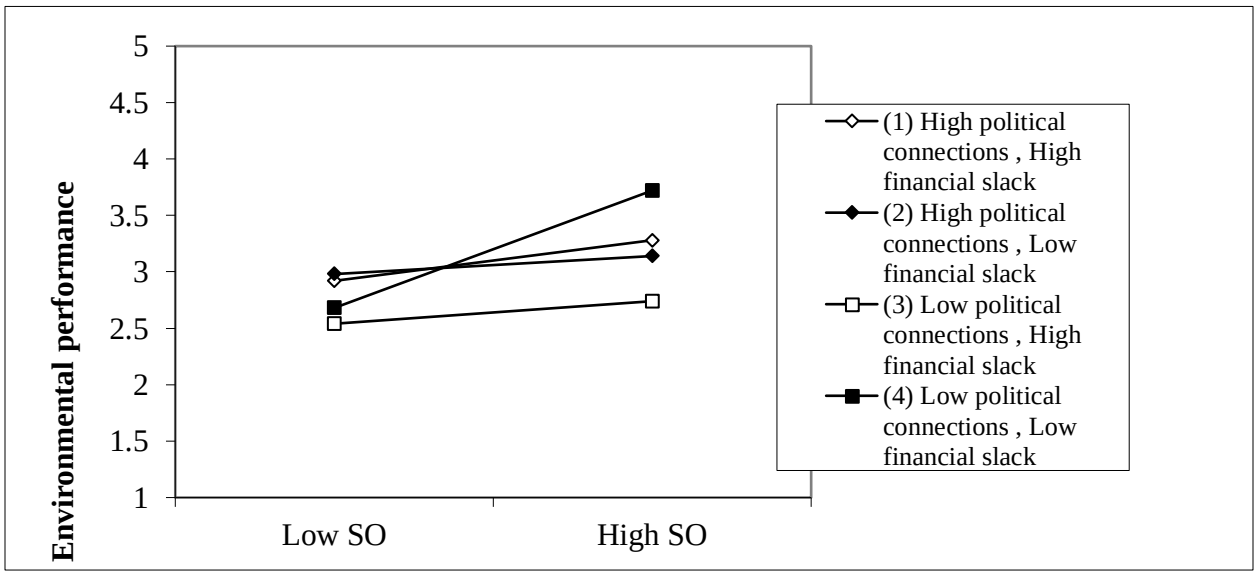

Figure 3: Interaction effect of SO, political connections and financial slack on FEP

Table 1: Descriptive statistics and correlations

	Variables	Mean	S.D.	1	2	3	4	5	6	7	8
1.	Firm size	19.62	3.04								
2.	Firm age	9.33	1.77	-.05							
3.	Founder age	52.44	9.11	.02	-.03						
4.	Gender	.58	.42	.01	.00	.00					
5.	Education	2.96	1.19	.09	.02	.08	.04				
6.	Sustainability orientation	5.70	2.41	.09	.06	.20**	.18**	.23**			
7.	Political connections	4.05	1.01	.14*	.18**	.14*	.02	.17**	.09		
8.	Financial slack	4.33	1.22	.32**	.23**	.02	.14*	.09	.01	.05	
9.	Firm environmental performance	4.91	.87	.08	-.06	.09	.03	.38**	.19**	-.14*	-.08

N = 297; *p < 0.05; **p < .01 (2-tailed test); S.D. = Standard Deviation

Table 2: Results of standardised moderated regression analyses

	Dependent variable: Firm environmental performance (N = 297)					
Independent Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Control variables						
Firm age	-.08*	-.09*	-.09*	-.10*	-.11*	-.11*
Firm size	.10*	.11*	.11*	.12*	.11*	.09*
Founder age	.04	.05	.03	.04	.05	.05
Gender	.03	.04	.05	.04	.04	.05
Education	.19***	.19***	.18***	.18***	.16***	.16***
Direct effects						
H_1: Sustainability orientation (SO)		.22***	.18***	.19***	.20***	.21***
Political connections (PC)			-.13**	-.13**	-.12*	-.12*
Financial slack (FS)			-.09*	-.09*	-.08*	-.08
Two-way interaction						
H_2: SO x PC				-.16***	-.17***	-.18***
H_3: SO x FS					-.14**	-.11**
Three-way interaction						
SO x PC x FS						-.45***
Model fit statistics						
F-value	2.9**	3.2***	3.6***	4.5***	6.04***	7.55***
R^2	.13	.15	.19	.22	.26	.30
ΔR^2	-	.02	.04	.03	.04	.04
Largest VIF	1.05	1.38	1.46	1.24	1.39	2.18

*** $p < .01$, ** $p < .05$, * $p < .10$