Resource-induced coping heuristics and entrepreneurial orientation in dynamic environments

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Resource-Induced Coping Heuristics and Entrepreneurial Orientation in Dynamic Environments

Abstract

Prior studies show the impact of various facets of individual characteristics in driving a firm's entrepreneurial orientation (EO). The present study complements this line of research by deriving insights from the conservation of resources (COR) theory to examine the effects of resource-induced coping heuristics (acquiring, protecting, and developing resources) on EO. Additionally, it investigates the underlying conditions influencing these relationships. Data were collected from new ventures in two developing countries (Ghana, N=204, and Ethiopia, N=214). Utilizing the moderated hierarchical regression analysis, the results show that the three dimensions of resource-induced coping heuristics positively relate to EO and these relationships are amplified when environmental dynamism is high. These findings provide a nuanced understanding of the relationships among the different types of resource-induced coping heuristics and EO. In this way, the study extends the boundaries of the resource-induced coping heuristics, EO, and broader entrepreneurship literature.

1. Introduction

As the global environment continues to change rapidly, new ventures must continuously

direct their strategic practices toward the identification and exploitation of opportunities for

market growth. Thus, it is not surprising that researchers have increasingly focused on

understanding the factors that drive entrepreneurial orientation (EO) (Anderson, Covin, &

Slevin, 2009; Boling, Pieper, & Covin, 2016; Miller, 2011). EO has been defined as a

strategic posture in which a firm exhibits innovative, proactive, and risk-taking behaviors

(Covin & Slevin, 1991; Miller, 1983). The rise in EO research (Rauch et al., 2009; Wales,

Gupta & Mousa, 2013) has been attributed to the notion that firms with strong EO perform

better than their counterparts that are conservatively managed (Basco, Hernández-Perlines, &

Rodríguez-García, 2019; Rauch et al., 2009), and that EO is a common driver of knowledge-

based resources (Martin & Javalgi, 2019). Even though extant research indicates that

personality characteristics of chief executive officers (CEOs) and entrepreneurs are key

drivers of EO (Covin & Slevin, 1991; Boling, Pieper, & Covin, 2016; Richard, Wu, &

Chadwick; 2009), a critical review of the literature shows that there is a limited

understanding of other personality and cognitive aspects of entrepreneurs that are potential yet previously unexplored determinants of EO.

Past efforts at understanding the determinants of EO behaviors have been based on various theoretical lenses, such as those relating to the personal characteristics of entrepreneurs. For example, previous studies based on the upper-echelons theory (Hambrick & Mason 1984) suggest that top management's (e.g., CEOs) characteristics, such as demographic factors, play a crucial role in a firm's EO (Covin & Slevin, 1991; Richard, Wu, & Chadwick; 2009). Additionally, other research in entrepreneurship shows that cognitions rather than personality traits are core factors associated with a variety of entrepreneurial outcomes (Keh, Foo, & Lim, 2002; Mitchell et al. 2002). Given that demographic characteristics are weak approximations of cognition, it has been suggested that scholars should employ more direct cognitive characteristics of top executives to explain individuals' behavior (Kaplan, 2008; Markoczy, 1997). As such, cognition has been identified as an important construct in developing and managing resources in new ventures (Busenitz & Arthurs, 2007; Dimov & Shepherd, 2005).

Interestingly, resource-induced coping heuristic—"a mental precursor that brings about the acquisition, protection, and development of resources" (Lanivich, 2015, p. 866)— has been identified as a major predictor of entrepreneurial success. Resource-induced coping heuristics is conceptualized as a three-dimensional scale, entailing the acquisition, protection, and development of resources (Lanivich, 2011; Lanivich, 2015). Consequently, there has been a substantial effort in examining the effects of conservation of resources in several research fields, including entrepreneurship (Moroz & Hindle, 2011; Lanivich, 2015), management (Halbesleben et al., 2014; Mallin & Mayo, 2006; Wheeler, Halbesleben, & Harris, 2011), and applied psychology (Hobfoll, 2001; 2009; Westman et al., 2004). For example, in entrepreneurship, Lanivich (2015) concluded that a resource-induced coping heuristic impacts

financial performance and perceived entrepreneurial success. Moreover, the relevance of cognitive heuristics has been identified in developing and managing resources in new ventures (Busenitz & Arthurs, 2007; Dimov & Shepherd 2005).

While our understanding of cognitive factors such as resource-induced coping heuristic and its impact on firms' performance has improved with the growing number of empirical studies, the entrepreneurship literature exhibits some knowledge gaps. First, although cognitive resources have been linked to venture survival and performance (Dimov & Shepherd 2005; Lanivich, 2015), researchers have largely ignored how cognitive resources influence entrepreneurial behaviors (Gregoire, Corbett, & McMullen, 2011). Specifically, the body of evidence relating to how the cognitive attributes, such as resource-induced coping heuristics, affect entrepreneurial venture behaviors is still limited. As a result, we have only a partial understanding of the relationship between resource-induced coping heuristics and venture outcomes.

Second, the potential impact of resource-induced coping heuristics on EO may vary in different environmental contexts. However, studies that have explored the boundary conditions of this relationship are rare. Although some previous EO research has examined the effect of boundary conditions such as environmental dynamism on EO (Ruiz-Ortega et al., 2013); and the moderating effect of environmental dynamism on CEO self-evaluation and EO nexus (Simsek, Heavey, & Veiga, 2010), these studies did not investigate the conditions under which resource-induced coping heuristics drive EO. This omission is considered a very important gap in the literature. Thus, the present study proposes that the relationship between resource-induced coping heuristics and EO is moderated by environmental dynamism. This is a legitimate moderator for this relationship because increased environmental dynamism is the strongest determinant of market uncertainty (Jaworski & Kohli, 1993). For example, environmental dynamism influences entrepreneurs operating in lesser-developed and unstable

institutional environments (Bruton, Ketchen, & Ireland, 2013) because it has a significant impact on firms' strategic orientation.

This study aims to make two important contributions to the resource-induced coping heuristics, EO, and broader entrepreneurship literature. First, it enhances EO research by showing that entrepreneurs' cognitive resources are major drivers of EO. In this way, this paper extends the growing literature on EO in a new direction, by validating the predictive influence of cognitive heuristics (Lanivich, 2015). Specifically, this study adds to prior EO studies that examine antecedents of EO (Anderson, Covin, & Slevin, 2009; Boling, Pieper, & Covin, 2016; Miller, 2011) by examining the effect of resource-induced coping heuristics. However, unlike previous studies that examined the impact of resource-induced coping heuristics on financial performance and perceived entrepreneurial success (Lanivich, 2011, 2015), this paper examines entrepreneurs' cognitive resources as antecedents of EO. Consequently, this paper draws on the conservation of resources (COR) (Hobfoll, 2001) to shed more light on the black box of how cognitive resources (Dimov & Shepherd 2005) affect a major strategic orientation (i.e., EO). In doing so, this paper complements existing entrepreneurial cognition studies that posit that variation in entrepreneurship phenomena is driven by cognitive function (Mitchell et al., 2002).

Second, this paper advances the entrepreneurship literature by demonstrating that the effect of cognitive resources on EO is moderated by environmental dynamism. Thus, the present study helps to answer the question of when cognitive resources drive EO. This modeling is relevant because there is a lack of clarity regarding the buffering conditions which may increase or reduce the impact of cognitive resources on firms' strategic orientation. Since the level of entrepreneurs' resource-induced coping behaviors affects firm-level outcomes, such as financial performance (Lanivich, 2015), it is reasonable to expect that environmental dynamism may help to illuminate the conditions under which the resource-induced coping

heuristics-EO relationship is more or less effective. Figure 1 below summarizes the conceptual model of the study.

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2. Theoretical framework and hypotheses

2.1 The COR theory and resource induced-coping heuristic

The COR theory suggests that, when individuals are subjected to either potential or actual resource loss, they tend to acquire, protect, and develop resources (Hobfoll, 2001). In the process of acquiring, protecting, and developing resources, stockpiles of resources can be created which can attenuate the negative effects of resource loss. As such, the COR explains how individuals build a security reserve whereby conserved resources can potentially replace resource loss (Hobfoll, 2001). The behavioral tendency to acquire, protect, and develop resources is considered a coping mechanism for potential and actual resource loss. Thus, a high level of coping mechanism can help entrepreneurs to cope with resource uncertainty while those with low levels of this trait may not be able to do so. However, given the dynamic and uncertain nature of the environment, it is difficult to detect the COR theory behaviors when considering resource needs in entrepreneurship (Lanivich, 2015). The resource-induced coping heuristics can be linked to the resource salience perspective (Hobfoll & Shirom, 2001). The resource salience perspective highlights that the cognitive resources held by individuals can be considered adequate resources in their own right. Thus, these cognitive resources and heuristics must be linked to entrepreneurial strategic posture to distinguish the entrepreneurs resulting actions and impacts on entrepreneurship.

On the other hand, the foundation of the resource-induced coping heuristics can be traced from the psychological and sociological orientations of conservation of resources (Hobfoll, 1989, 2001, 2009). This perspective provides key insights into resource-induced

coping heuristics (i.e., acquiring, protecting, and developing resources). Hobfoll's COR theory shows how individuals protect and build valuable resources. According to the COR theory, individuals experience stress when the potential or actual loss of resources is triggered by environmental circumstances. In other words, the theory implies that individuals can experience stress when their investment of resources does not yield the expected gain but are often in neutral states in cases of resource gains. This shows that individuals are loss-sensitive and gain insensitivity on biological (Cacioppo & Gardner, 1999; Lanivich, 2015), cognitive and social (Hobfoll, 1989) levels. As such, individuals are motivated by building and preserving resources.

Resource-induced coping heuristic has been defined a as mental forerunner that acquires, protects, and develops resources (Lanivich, 2015). The act of acquiring resources reflects the "act of making objects, energies, conditions, and personal characteristics available for use" (Lanivich, 2015, p. 867). First, the act of acquiring resources does not necessarily mean that the individual should physically possess the resources; rather, it extends from acknowledging the presence of actual resources . Second, the act of protecting resources refers to the act where an individual expends resources to maintain the acquired resource (Lanivich, 2015, p. 867). Put simply, the individual must forgo a particular thing to ensure another thing continues to function. Third, according to Hobfoll (2001), the act of developing resources, arguably, reflects the act where individuals expend efforts to put acquired resources into a useful resource. The act of developing resources can only happen after the individual has acquired the resource. Collectively, understanding how resources are processed by entrepreneurs to create entrepreneurially-oriented ventures is of significant interest in entrepreneurship (Moroz & Hindle, 2011).

2.2 Resource induced-coping heuristic and entrepreneurial orientation

 Given that the COR theory mainly focuses on the crucial behaviors of acquiring, protecting, and developing resources (Hobfoll, 2001), this paper argues that these behaviors may potentially play a role in a firm's strategic orientations, such as EO. Instructively, EO originated from the notion of "entrepreneurial decision making" (Khandwalla, 1976/1977; Mintzberg, 1973), which describes a firm's entrepreneurially-oriented behavior (i.e., innovativeness, proactiveness, and risk-taking). Based on Miller's (1983) conceptualization, EO encompasses a strategic posture that reflects a firm's behaviors such as engagement "in product-market innovation, undertakes somewhat risky ventures, and is the first to come up with 'proactive' innovations, beating competitors to the punch" (p. 771). Extant research suggests that EO is a common predictor of knowledge-based resources, marketing capabilities, export venture performance (Martin & Javalgi, 2019), and venture performance (Rauch et al., 2009; Semrau, Ambos, & Kraus, 2016; Wales, Gupta, & Mousa, 2013). In addition, EO energizes a firm to identify opportunities that bring large returns to stakeholders (Covin & Slevin, 1991). Drawing from the foregoing insights, it can be proffered that the way entrepreneurs use their influence to shape a firm's strategic orientation is likely to be affected by certain cognitive positions taken by individuals regarding resources. This notion is consistent with Hambrick and Mason's (1984) proposition in their upper-echelons theory. Consequently, it is logical to expect that the cognitive positions and heuristics of entrepreneurs impact their resulting actions such as innovativeness, proactiveness, and risk-taking. For example, it has been suggested that top executives such as entrepreneurs possess personal schema and repertoire which tend to form the genesis of their strategic thinking (Hambrick & Fukutomi, 1991). This mental schema and repertoire motivate entrepreneurs to acquire, protect, and develop resources (Hobfoll, 2001) which can potentially affect the way EO is implemented in firms. This assertion seems reasonable because individuals are

considered loss-sensitive and gain-insensitive in cognitive situations (Tversky & Kahneman, 1992). For example, resource endowment, whether actual resources (Barney, 1991) or potential resources (Elbe, 2011), is considered a crucial determinant to create, implement, and reap the rewards of strategic orientation (Covin & Slevin, 1991). In this way, entrepreneurs acquire, expend, and develop resources to exploit opportunities for market growth. Therefore, it may be extended that acquiring, expending, and developing resources have a fundamental motivation for firms' strategic orientation. As suggested by Covin and Slevin (1991), resources possessed by entrepreneurial firms are considered critical to impact innovation, proactiveness, and risk-taking behaviors. In addition, given that static characteristic resources are considered drivers of firm-level outcomes (Baum & Locke, 2004), it can be put forward that the way resources are processed by entrepreneurs should help them to pursue strategies relevant to entrepreneurial behaviors. Moreover, the entrepreneurial 'mindset' (Lumpkin & Dess, 2001) which supports entrepreneurship is considered to involve cognitive resources (Chaston & Sadler-Smith, 2012; Dutta & Crossan, 2005) which may help entrepreneurs to exhibit innovative, proactive and risk-taking behaviors often associated with entrepreneurship. Based on the foregoing insights and argument, it is hypothesized that:

H1a: Acquiring resources is positively related to EO

H1b: Protecting resources is positively related to EO

H1c: Developing resources is positively related to EO

2.3 The moderating role of environmental dynamism

Studies on cognitive processes suggest that individuals usually operate under conditions of uncertainty caused by conflicting, incongruent, or redundant information relative to achieving a specific goal (Barkley, 1997; Mitchell et al., 2002). In other words, the achievement of individual goals occurs against a backdrop of powerful environmental conditions such as environmental dynamism. By extension, it may be argued that the effects of three distinct

types of resource-induced coping heuristics on EO may be dependent on environmental conditions. Accordingly, this study draws from this logic to examine the potential moderating influence of environmental dynamism on the hypothesized relationship between the three dimensions of resource-induced coping heuristics and EO.

A dynamic environment is characterized by frequent changes, leading to unpredictability and high levels of uncertainty (Dess & Beard, 1984). To succeed in such environments, firms need to exhibit innovative, proactive, and risk-taking behaviors to respond to market needs (Miller & Friesen, 1982). Based on the meta-analysis of Baas et al. (2008), individual-level variables (e.g., cognitive heuristics) are most effective in driving firm-level outcomes when they are accompanied by high levels of activation. This indicates that the effect of the resource-induced coping heuristics on EO will be stronger in environments that generate high levels of activation. As it has been argued by Baron and Tang (2011), dynamic environments generate higher levels of activation among entrepreneurs than are seen in stable industry environments.

When the environment is in a state of flux, there is a high level of unpredictability, rapid, and dramatic change leading to high levels of uncertainty and risk (Miller, 2007). This situation necessitates making strategic decisions based on incomplete information (Aldrich, 2000; Baron & Tang 2011). Such conditions are characterized by high levels of activation (Stranks, 2005). Thus, based on this reasoning, levels of activation among entrepreneurs are likely to be higher in environments characterized by unpredictability and uncertainty. Additionally, given that in conditions of high levels of activation, entrepreneurs are likely to think about acquiring, developing, and protecting resources, cognitive decision-making relating to resources and how resources are processed by entrepreneurs are likely to be more effective in driving EO in dynamic environments than in less dynamic environments.

Moreover, cognitive resources are more pronounced in entrepreneurial behaviors when uncertainty prevails (Burke & Miller, 1999, p. 96).

In addition, the ability to recombine resources merely provides flexibility for the firm to engage in EO. For EO to be implemented, entrepreneurs must be motivated to carefully consider the resource reconfiguration options and start implementing the ones that appear most beneficial. This paper suggests that such motivation will be higher in highly dynamic environments because, by nature, dynamic environments provide more challenges and opportunities for entrepreneurs to engage in acquiring, protecting, and developing resources. Also, dynamic environments virtually require high entrepreneurial postures (Lumpkin & Dess, 2001) for firms to deal with the dynamism more effectively. Thus, environments characterized by turbulence and uncertainty (Khatri & Ng, 2000) are likely to convert resource-induced coping heuristics to greater levels of EO. Overall, the positive relationship between resource-induced coping heuristics and EO will be stronger in highly dynamic than stable environments, because the environmentally-generated pressure to engage in resource reconfiguration and entrepreneurial postures will be stronger in dynamic environments. Based on this reasoning, it is proposed that:

H2a: The positive relationship between acquiring resources and EO will be stronger when environmental dynamism is stronger

H2b: The positive relationship between protecting resources and EO will be stronger when environmental dynamism is stronger

H2c: The positive relationship between developing resources and EO will be stronger when environmental dynamism is stronger

3. Study 1-Ghana

3.1 Sample and data collection

In Study 1, data were collected from entrepreneurs in Ghana. The entrepreneurs were located using students from three universities in the country. This approach was employed because

private organizations tend to protect their business privacy and hesitate to provide information to strangers. The selected students reached out to their social networks to identify owners/managers of small firms who had participated in establishing business ventures. These entrepreneurs' close acquaintance with the students accounted for their willingness to participate in, and for providing accurate responses and completing, the survey. The survey was developed in English. Data were collected in two waves. First, a total of 700 ventures were contacted to capture entrepreneurs' resource-induced coping heuristics, environmental dynamism, and received 268 responses (38.28%). In the second survey, top managers of the 268 firms were contacted with a questionnaire in person to capture the entrepreneurial orientation construct. Sixty-four (64) cases were excluded due to missing values or not being answered. Thus, 204 matched responses (29.14%) across wave 1 and wave 2 were used for the analyses. To confirm that the surveys were completed by entrepreneurs and top managers within the firms, the respondents were randomly contacted to verify the sources of the data. No unusual cases among the firms contacted were found. The final sample contains firms with a mean age of 8.65 (s.d. = 6.91) years and mean size of 27.75 (s.d. = 16.17) full-time employees. The firms operate in multiple industries such as agro-processing (9%), transportation services (35%), engineering services (20%), textile manufacturing (21%), and water and soft drinks processing (15%). This indicates that, of the 204 ventures, 45% are manufacturers of physical goods whilst 55% are service providers.

3.2 Measures

A seven-point Likert scale (1 = "strongly disagree" and 7 = "strongly agree") was used to assess our multi-item constructs.

Resource-induced coping heuristics. Entrepreneurs' *resource-induced coping heuristics* was assessed with Lanivich's (2015) original sixteen-item scale. The resource-

induced coping heuristics scale constitutes three distinct dimensions: *acquiring resources*, *protecting resources*, and *developing resources.*

Entrepreneurial orientation. Covin and Slevin's (1989) EO scale constituting innovativeness, proactiveness, and risk-taking was used to measure EO. This scale contains nine items. Measuring EO with Covin and Slevin's (1989) scale is robust in EO research (Rauch et al., 2009). The combined mean of the scale constitutes the variable EO score. Firms scoring high on the EO scale show a more entrepreneurial posture, while a lower score represents a more conservative posture.

Perceived environmental dynamism. This construct was measured using three items from Miller and Friesen (1983). These items tap managerial perceptions of the degree of variation in the business environment. Excellent validity and reliability for all measures were received (Table 1).

Control variables. Five variables that have been shown by previous research to impact on EO (Boling, Pieper, & Covin, 2016) were controlled for in this study. *Firm size* was measured as the number of full-time employees, and *firm age* was captured as the number of years the business has operated since its first sales. *Industry* was measured with a dummy variable with "0" indicating the manufacturing industry and "1" indicating otherwise. Finally, *entrepreneur's age* and *education* ("1" = "less than high school," "2" = "high school," "3" = "bachelor's degree," "4" = "master's degree," and "5" = "doctoral degree") were used as control variables.

3.3 Dimensionality, reliability, and validity

To assess the dimensionality, reliability, and validity of the scales, exploratory factor analyses (EFA) and confirmatory factor analyses (CFA) were performed. In the EFA, the direct oblimin rotation method (Samiee & Chabowski, 2012) was used. EFA results indicate that all the 28 items loaded on their respective factors, yielding seven factors (three factors for resource-

induced coping heuristics, three factors for EO, and one factor for environmental dynamism) with eigenvalues larger than 1. These factors accounted for about 79.22% of the total variance. No cross-loadings were found, and all loadings were greater than .40. With the CFA analysis, excellent fit heuristics were obtained for the five-factor solution (χ^2/df =1.42, RMSEA = .05, CFI = .95, NNFI = .98, SRMR= .07). The five-factor model was compared with alternative models to investigate the discriminant validity of the five constructs. The results of the model comparison indicate that the five-factor solution was much better than those of any other alternative model. Also, the same composite reliability (CR), EFA, and AVE tests for the convergent validity and discriminant validity of the constructs were employed and the results provided support for both convergent and discriminant validity. Thus, the discriminant validity of the four constructs was supported. The overall results of the CFA revealed that all the factor loadings were positive and significant at 1%, with excellent model fit indices (Table 1). Thus, the overall model was deemed to support convergent validity (Bagozzi & Yi, 2012).

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3.4 Tests for potential biases

 The potential non-response bias was investigated by following the procedures suggested in previous studies (Armstrong & Overton, 1977; Rogelberg & Stanton, 2007). The respondents and non-respondents were compared in terms of venture age, venture size, industry, and entrepreneur's age by employing Pearson's chi-square test for discreet variables (Greenwood & Nikulin, 1996). The results indicate that respondents and non-respondents do not differ in terms of these firm-level or individual-level characteristics. Hence, non-response bias does not appear to be a concern in this study.

Several steps were taken to address common method bias problems: (1) a pilot test was undertaken to establish any vagueness in the items, (2) the respondents were promised

anonymity in the introduction letter to help reduce their willingness to alter their responses, (3) a two-part survey was designed where the data for the independent and the moderating variables were collected from founders whilst the data for the dependent variable were collected from top managers such as general managers, finance managers, marketing managers, etc. Additional statistical tests were undertaken to control for common method variance. First, Lindell and Whitney's (2001) procedure was used to examine whether common method bias influenced the integrity of the results by identifying an item that is not conceptually related to any of our constructs (marker variable). The item "being an entrepreneur allows me the freedom to decide how I do my own work" was used as a marker variable. This item measures job autonomy. Results from Lindell and Whitney's (2001) test show low and non-significant correlations (ρ = -.01 to .04), suggesting that our data are free from common method variance. Second, the approach suggested by Podsakoff, MacKenzie, and Podsadoff (2012) was used to include a single common latent factor in our models. Results show that the path coefficients of the main model did not change significantly when the idle factor was integrated (non-common method factor model: χ^2/df = 1.19, p < .001, NFI = .96, CFI = .93, RMSEA = .04, common method factor model: χ^2/df = 1.33, p < .001, NFI = .93, CFI = .92, RMSEA = .05). Also, all the items loaded significantly on their respective constructs.

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3.5 Hypothesis testing

The moderated hierarchical regression analysis was used as the main estimation procedure in testing the hypotheses. Before the main regression analyses, normality was assessed using a Kolmogorov–Smirnov test. The result of the normality test supports the assumption of univariate normality. Post-regression analyses show that multicollinearity does not influence

our findings as the highest variance inflation factor (VIF) was 3.09, which is well below the suggested cut-off value of 10 (Neter, Wasserman, & Kutner, 1990).

The means, standard deviations, and correlations for the model variables are presented in Table 2. Table 3 provides the results of the hierarchical regression models for EO. The interactions were graphed in figures 2-7. The results are presented concerning the individual hypotheses.

Model 1 contains the control variables. Model 2 presents the main effects variables. Hypothesis 1 proposed that acquiring resources (a), protecting resources (b), and developing resources (c) would be positively related to EO. The results in Table 3 indicate that H1a (β=.14, $p < .05$, Model 2), H1b ($\beta = .17$, $p < .01$, Model 2) and H1c ($\beta = .18$, $p < .01$, Model 2) are supported.

Hypothesis 2 proposed that environmental dynamism moderates the relationship between acquiring resources (H2a), protecting resources (H2b), developing resources (H2c), and EO such that the relationship is stronger for (i.e., more positive) for entrepreneurs leading their ventures in dynamic rather than in stable environments. The results in Table 3 show that H2a ($\beta = .31$, $p < .01$, Model 4), H2b ($\beta = .29$, $p < .01$, Model 5), and H2c ($\beta =.33$, $p < .01$, Model 6) are supported. To facilitate the interpretation of our results, the interactions were also plotted at ± 1 s.d. using the mean-centered values (Cohen et al., 2003). The graphical representation of the interaction in Figure 2 indicates that the positive effect of acquiring resources on EO is higher in dynamic as opposed to stable industry environments. This confirms Hypothesis 2a. Figure 3 also shows that the negative effect of protecting resources on EO is stronger (more positive) in dynamic environments. This provides no support for Hypothesis 2b. Figure 4 shows that the positive effect of developing resources is more positive at greater levels of environmental dynamism. This further confirms Hypothesis 2c.

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4. Study 2-Ethiopia

4.1 Sample and data collection

In Study 2, a major focus was on entrepreneurs who had taken part in the formation of the business. Accordingly, the 850 firms held in the Ethiopian Business Directory database were approached by telephone to elicit their participation in our study. The sample met the following criteria: (1) independent entities with no affiliation to any group of companies, (2) ventures owned and controlled by entrepreneurs, and (3) businesses employing fewer than 150 employees as of January 2018. First, all the founders of the 850 ventures were approached to collect data on resource-induced coping heuristics, environmental dynamism, and 289 responses were received (34%). Second, immediately after the survey, we approached the top managers of the 289 firms to collect data on EO. After cases with missing values were removed, the final sample consisted of 214 ventures. The final sample contains firms with a mean age of 3.55 (s.d. = .79) years and mean size of 6.85 (s.d. = 1.92) full-time employees. The majority of the ventures in the final sample operate in the service sector (61%) while the rest (39%) are in the manufacturing sector.

4.2 Measures

The same measures as in Study 1 were adopted to measure resource-induced coping heuristics, environmental dynamism, and EO. All the multi-item constructs were captured on a seven-point Likert scale (1 = "strongly disagree" to 7 = "strongly agree"). Excellent validity and reliability for all measures were received (Table 1). The same set of *control variables* as used in Study 1 were utilized in Study 2.

4.3 Test for potential biases, reliability, and validity

The same procedures as used in Study 1 were used to test for potential biases. First, the results of Pearson's chi-square tests indicated that respondents and non-respondents do not differ in terms of venture age, venture size, industry, and entrepreneur's age. Also, the same item (job autonomy) used in Study 1 was employed in Study 2 as a marker variable, and results showed low and non-significant correlations (ρ = -.01 to .03). Again, the same procedures as used in Study 1 were adopted to check for the dimensionality of the resource-induced coping heuristics, EO, and environmental dynamism scales. EFA established seven factors with eigenvalue greater than 1. These seven factors accounted for 82.44% of the total variance. No cross-loadings were obtained. Additionally, all factor loadings were greater than .40. Various models ranging from seven factors (seven variables) to one factor were tested. The results of the CFA suggest that a five-factor model outperforms other models such as the one-factor model (χ^2/df = 1.45, p < .001, RMSEA = .05, CFI = .96, NFI = .97). In addition, the composite reliability (CR), EFA, and AVE tests provided support for both the convergent and discriminant validity of the key constructs (Table 1).

4.4 Hypothesis testing

The moderated hierarchical regression analysis was used as the main estimation procedure to test hypotheses. Before the main regression analyses, normality was assessed using a Kolmogorov–Smirnov test. The results suggest no violation of normality assumption. The

continuous variables were mean-centered before creating the interaction terms. Post-regression analyses show that multicollinearity does not influence our findings as the highest variance inflation factor (VIF) is 3.63, which is well below the suggested cut-off value of 10 (Neter, Wasserman, & Kutner, 1990).

Descriptive statistics and correlations appear in the upper right half of the matrix in Table 2. Table 4 summarizes the test results. Hypothesis 1a was supported; that is, acquiring resources ($\beta = .20$, $p < .01$) was positively related to EO. Hypothesis 1b was also supported; that is, protecting resources ($\beta = .15$, $p < .01$) was positively related to EO. Hypothesis 1c, proposing that developing resources would be positively related to EO, also received support ($\beta = .22$, $p < .01$). The results in Table 4 indicate that H2a ($\beta = .43$, $p < 0.01$, Model 4), H2b ($\beta = .37$, $p < 0.01$, Model 5), and H2c ($\beta =.39$, $p < .01$, Model 6) are supported. The same procedure in Study 1 was used for the interaction effects at ±1 s.d. using the mean-centered values (Cohen et al., 2003).

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4.5 Supplementary analyses

To substantiate the robustness of the results, three *post hoc* tests were performed. First, following previous studies (De Clercq, Dimov, & Belausteguigoitia, 2016; Zahra & Hayton, 2008) all three interaction terms were concurrently estimated in Model 7 (Study 1 and Study 2). According to the logic of this approach, the simultaneous inclusion of multiple interactions sharing common variables may result in insignificant moderating effects due to multicollinearity (Neter, Wasserman, & Kutner, 1990). For this study, consistency in the signs of the interaction terms in the main model was found. This offers support for the robustness of our regression model (Covin, Green, & Slevin, 2006). Second, the composite measure of resource-induced coping heuristics (Lanivich, 2015) was used as the independent

variable and its effect on the dependent variable (EO) was tested in both Study 1 and Study 2. The results show that resource-induced coping heuristic is positively related to EO (β = .16, *p* < .01 in Study 1 and β = .18, *p* < .01 in Study 2). Subsequently, the moderating effects of environmental dynamism of this relationship were estimated. The results show that the positive relationship between resource-induced coping heuristics and EO is amplified when in dynamic, as opposed to stable, environments (β = .41, *p* < .01 in Study 1 and β = .44, *p* < .01 in Study 2). The results confirmed findings reported above for all the hypotheses relating to EO as a dependent variable. Third, an alternative model was estimated by adding additional control variables (i.e., gender and environmental munificence) in both Study 1 and Study 2. Substantially, the results were in line with the initial findings. This indicates that the results presented in this paper are robust to alternative explanations (Stam, 2010).

5. Discussion and implications

5.1 Key findings

This article examines the influence of the three dimensions of resource-induced coping heuristics on EO and the moderating effects of environmental dynamism. The results from the study indicate that increases in entrepreneurs' resource-induced coping heuristics help explain changes in EO. Also, the results show that increases in entrepreneurs' resource-induced coping heuristics and greater degrees of environmental dynamism are associated with increases in EO. In short, the findings demonstrate that environmental dynamism has a significant influence on the relationship between entrepreneurs' resource-induced coping heuristics and EO. These findings have several theoretical and practical implications.

5.2 Theoretical contributions

Theoretically, the findings from the study contribute to the entrepreneurship literature in three specific ways. First, the finding that resource-induced coping heuristics positively relate to

EO extends the literature on resource-induced coping heuristics. More specifically, unlike previous research that indicates that entrepreneurs with a proclivity for resource conservation behaviors (i.e., acquiring, protecting, and developing resources) report higher financial and venture success (Lanivich, 2015), the current study explores the effect of entrepreneurs' resource-induced coping heuristics on EO. In doing so, the current study shows the consequences that cognitive resources (Busenitz & Arthurs, 2007; Dimov & Shepherd 2005), such as entrepreneurs' resource-induced coping heuristics, have on a firm's strategic posture. This finding is important because personality characteristics, such as the cognitive and psychological orientations of entrepreneurs, have been noted as very crucial influences on a firm's strategic decision-making process (Hmieleski & Carr 2008). Additionally, a firm's strategic orientation involves considerable risks, complexities, and uncertainties, which invariably require a cognitive buffer for the uncertainty. Relatedly, behavioral decision theorists argue that the managerial strategic decision-making process largely depends on top management's cognitive and psychological heuristics (March & Shapira, 1992). Moreover, the outcomes concerning the influence of the three dimensions of resource-induced coping heuristics on EO help to contribute to previous studies on the antecedents of EO (Anderson, Covin, & Slevin, 2009; Boling, Pieper, & Covin, 2016; Miller, 2011). The current finding is a crucial contribution because, despite growing research on EO (Rauch et al., 2009), efforts to elucidate how resource-induced coping heuristics spur EO are limited. The present study attempted to close this gap by investigating how the three dimensions of resource-induced coping heuristics impact on the level of EO. Thus, the current contribution offers important insights to close the knowledge gap concerning the role of conservation of resources in driving EO.

Second, this study contributes further to the entrepreneurship literature by examining how environmental dynamism conditions the resource-induced coping heuristics–EO

relationship. The findings from the present study indicate that there is a significant moderating effect of environmental dynamism on the relationship between entrepreneurs' resource-induced coping heuristics and EO. Although this study found that entrepreneurs' resource-induced coping heuristic can drive EO, a strong resource-induced coping heuristics may not always lead to EO. Thus, this study examined the boundary conditions of the resource-induced coping heuristics-EO linkage by introducing a potential moderator: environmental dynamism. This extension is relevant because it goes beyond the often-examined direct effect of entrepreneurs' resource-induced coping heuristics on financial and venture success (Lanivich, 2015). Particularly, the current study demonstrates the environmental and firm-level conditions under which entrepreneurs' resource-induced coping heuristics effectively drive a firm's strategic posture. This extension is timely, as it points to the importance of utilizing a contingency configuration model, which tests the boundary limits of relationships, especially when modeling complex strategic decisions such as EO.

Third, while the resource-induced coping heuristics scale was developed with a sample of entrepreneurs in a developed country, it has not been validated in developing country contexts. The current study uses data from two developing countries to estimate the research model. Also, most of the past research on antecedents of EO has been conducted in developed country contexts (Anderson, Covin, & Slevin, 2009; Boling, Pieper, & Covin, 2016; Miller, 2011). As a result, evidence regarding EO outcomes of entrepreneurs' resource-induced coping heuristics in developing countries, which face more resource scarcity compared to developed nations, is non-existent. Thus, the present study, which was undertaken in two developing countries, helps to extend the literature on antecedents of EO by showing that entrepreneurs' resource-induced coping heuristics affect entrepreneurial behavior in these contexts.

5.3 Practical contributions

The present study has some practical implications too. First, the finding that entrepreneurs' resource-induced coping heuristics positively relate to EO is critical for entrepreneurs, especially, those in developing country contexts. For example, this finding can guide entrepreneurs located in these environments to improve their EO by assessing the levels of resource-induced coping heuristics. Given the observed positive influence of EO and venture success (Rauch et al., 2009), the results of the current study indicate that entrepreneurs with low resource-induced coping heuristics should be about a concern because resource-induced coping heuristics are cognitive resources that can spur higher EO outcomes. Moreover, governments can help mitigate cognitive barriers which make it difficult for entrepreneurs to pursue their dreams by encouraging entrepreneurial education, both formally and informally. Universities and other educational sectors can play a major role in developing an entrepreneurial mindset. In this case, governments can set up special funds to support entrepreneurial education. Second, stakeholders of new ventures are advised to hire CEOs who score high on resource-induced coping heuristics. Lanivich's (2015) resource-induced coping heuristic inventory on acquiring, protecting, and developing resources (Table 1) can be used to investigate the level of a potential candidate's resource-induced coping heuristics as a hiring assessment tool. In addition, for entrepreneurs, the findings from this study show that steps should be taken to develop resources in a manner consistent with a resource-induced coping heuristics strategy for firms to be more entrepreneurially oriented. In this way, the development, internalization, and actualization of cognitive resources could mitigate uncertainty and lead to resource acquisition and maintenance habits for entrepreneurs.

6. Limitations and directions for future research

This article has provided some nuanced findings which extend the entrepreneurship literature in several ways. Specifically, the findings enhance our understanding of the effects of resource-

induced coping heuristics on EO and the circumstances under which this relationship is more pronounced. However, as with all empirical research, some limitations should be considered when interpreting the findings of the present study. The recommendations for future studies have been divided into three distinct but related trajectories, namely: theory, contexts, and methodology.

6.1. Future directions – theory

There are several directions for future research to enhance theory development on resource-induced coping heuristics and EO. First, given that the majority of small entrepreneurial firms fall into the category of new ventures, this article focused on new ventures. However, since old and large firms are more resourceful (Engelen, Kube, Schmidt, & Flatten, 2014), they can develop EO more easily. Conversely, it can be argued that the effects of resource-induced coping heuristics on EO may be stronger in small entrepreneurial firms since these are more flexible and can assimilate and transform knowledge more easily. This notion opens an avenue for future research. Second, previous studies in entrepreneurship show that cognition is a major determinant of entrepreneurial outcomes (Keh, Foo, & Lim, 2002; Mitchell et al., 2002). However, personality traits are likely to also play a significant role in EO. Therefore, future studies can investigate the potential role of other individual-level variables that can potentially influence EO. For instance, one of the "big five" dimensions—openness to experience—could be positively related to EO. Persons high in this dimension might be more likely to implement EO. Relatedly, and as proposed above, the regulatory focus orientation of entrepreneurs might also play such a role. Therefore, this study proposes that future studies should consider extending the examination of EO drivers in new ventures to include other individual characteristics, such as ambiguity tolerance (Begley & Boyd, 1988) or internal locus of control (Judge & Bono, 2001), as well as other environmental factors, such as

munificence (Baum et al., 2001). For example, future studies could examine the role of environmental munificence in the resource-induced coping heuristics-EO relationship.

Also, the current study shows that entrepreneurs in developing country contexts should develop strong cognitive capabilities to be entrepreneurially oriented in dynamic environments. However, the development of this cognitive capability in dynamic environments is not necessarily straightforward or intuitive as it takes time to develop such capabilities. Thus, future research could examine how cognitive barriers could be mitigated by investigating how business support systems, such as advice and financial assistance, can help identify and disseminate best practices among entrepreneurs in developing countries. Additionally, studies that examine drivers of resource-induced coping heuristics are non-existent. Thus, future studies could be directed to investigating the factors that predict entrepreneurs' resource-induced coping heuristics. Finally, future research should investigate the effects of resource-induced coping heuristics on other orientations such as market orientation (Baker & Sinkula, 2009), small business orientation (Runyan, Droge, & Swinney, 2008), and learning orientation (Wang, 2008).

6.2. Future directions – contexts

The data used to test the hypotheses were collected from two leading developing countries in sub-Saharan Africa. Given that developing countries in sub-Saharan Africa generally share common institutional characteristics such as weaker institutional frameworks and inadequate access to resources for small business development (Acquaah, 2007), future studies could examine the role of resource-induced coping heuristics in accessing entrepreneurial resources in developing countries. Additionally, the findings from this paper may be interpreted based on the contextual characteristics of other countries in sub-Saharan Africa. Although these two countries offer rich contexts to test the impact of resource-induced coping heuristics on strategic orientation such as EO, other developing countries may exhibit different contextual

elements that could give additional insights for theory development. Therefore, the outcomes from this article may not apply to the unique contexts of entrepreneurship, given the wide differences across developing economies. Consequently, more studies using multi-country studies in more than two countries are warranted. Also, national cultural factors (e.g., future orientation, performance orientation, and risk-aversion levels of the population) could influence the effect of resource-induced coping heuristics on EO. Thus, future research should be directed to examining the effect of cultural factors on the relationship between resource-induced coping heuristics and EO across a range of developing and developed nations. This enquiry is likely to add to the EO literature on how national culture converts cognitive factors into entrepreneurial behavior.

6.3. Future directions – methodology

Although the data used in both studies were time-lagged to reduce concerns about common method bias associated with cross-sectional data (Podsakoff et al., 2003), future studies should use a longitudinal design to be able to make causal inferences with greater confidence. For example, future studies can address this issue by collecting data from multiple informants and at different points in time. Also, this research cannot completely rule out alternative explanations to that assumed by this study (i.e., the effects of entrepreneurs' resource-induced coping heuristics on EO) because it was based on a cross-sectional survey. The best way to empirically rule out alternative explanations and confounding effects is a randomized experiment (Hsu, Simmons, & Wieland, 2017). Finally, the effects of individual-level variables such as gender and prior experience of entrepreneurs were not controlled for in this study. These variables may affect EO. To improve the internal validity of future research, these variables should be controlled for.

7. Conclusion

Despite the above limitations, analyses from the two studies (Ghana, N=204; and Ethiopia, N=214) find support for the effects of the three dimensions of resource-induced coping heuristic on EO. Additionally, the results show that perceived environmental dynamism positively moderates the relationships between the three dimensions of resource-induced coping heuristics on EO. These findings provide support for all the hypotheses. Understanding the drivers of EO is crucial because EO drives firm performance (Rauch et al., 2009). Overall, these findings contribute to both resource-induced coping heuristics and EO research. It outlines theoretically that resource-induced coping heuristics can help develop a strong EO especially if the firm operates in a dynamic environment.

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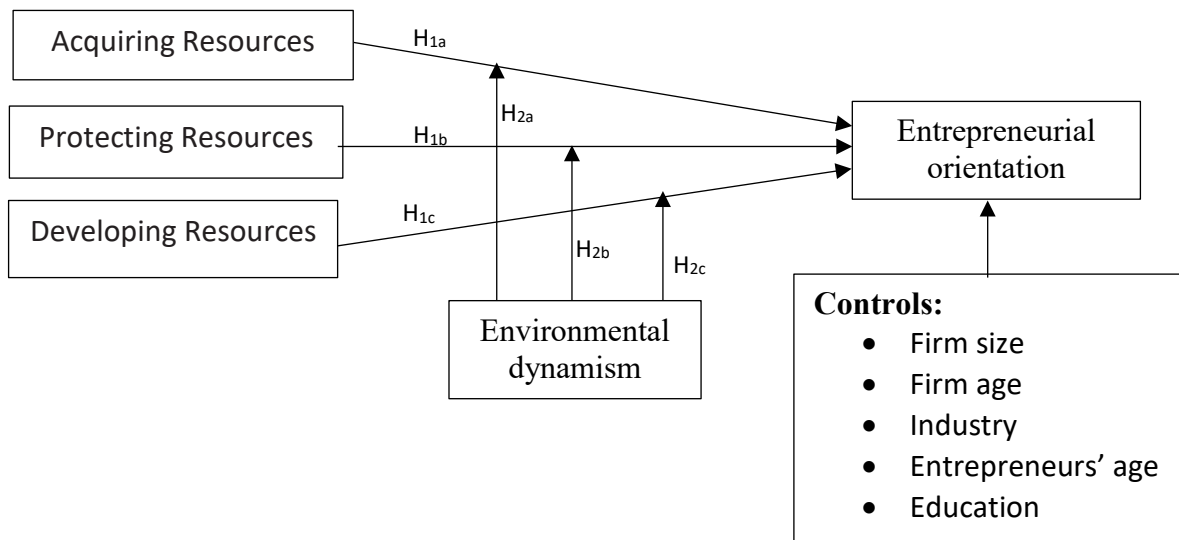**Figure 1: Conceptual model of the study**

Figure 2. Interaction effect of acquiring resources with environmental dynamism on EO (Study1)
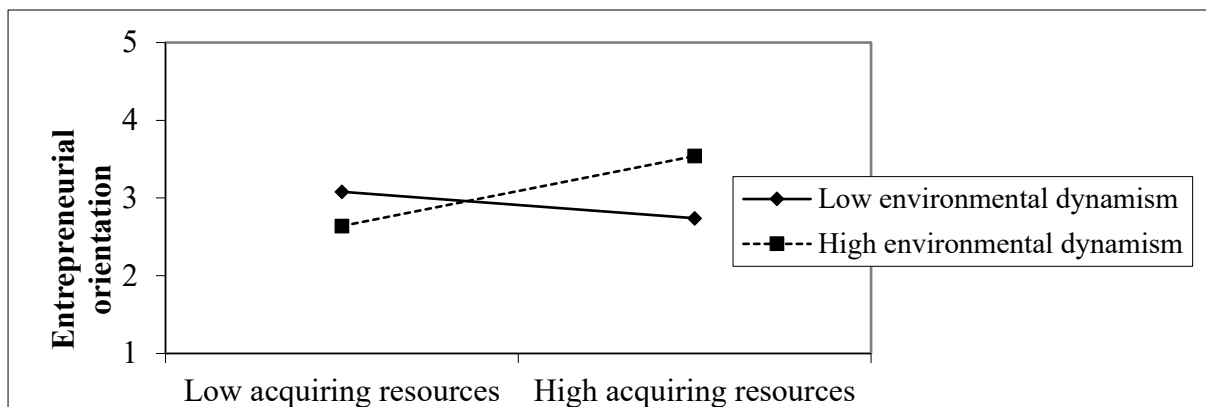
Figure 3. Interaction effect of protecting resources with environmental dynamism on EO (Study1)
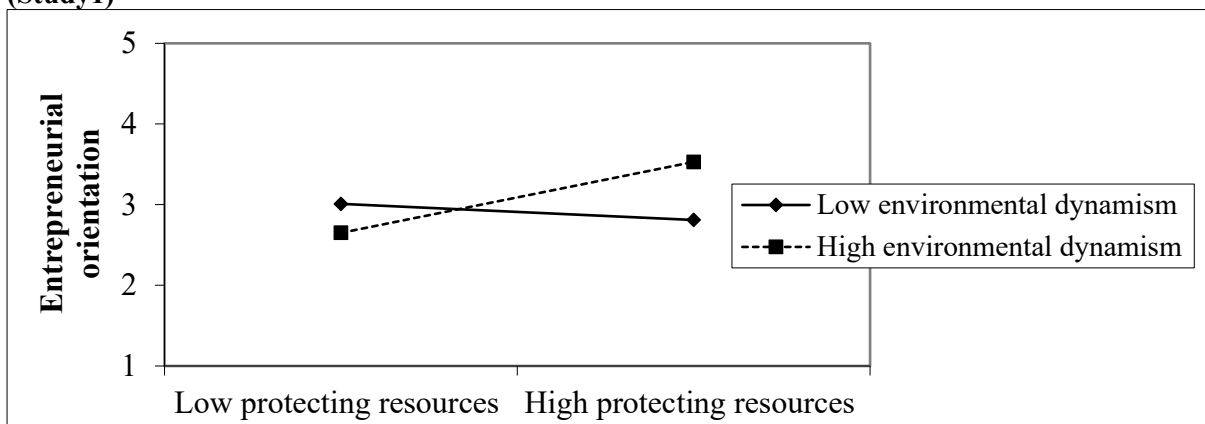

Figure 4. Interaction effect of developing resources with environmental dynamism on EO (Study1)
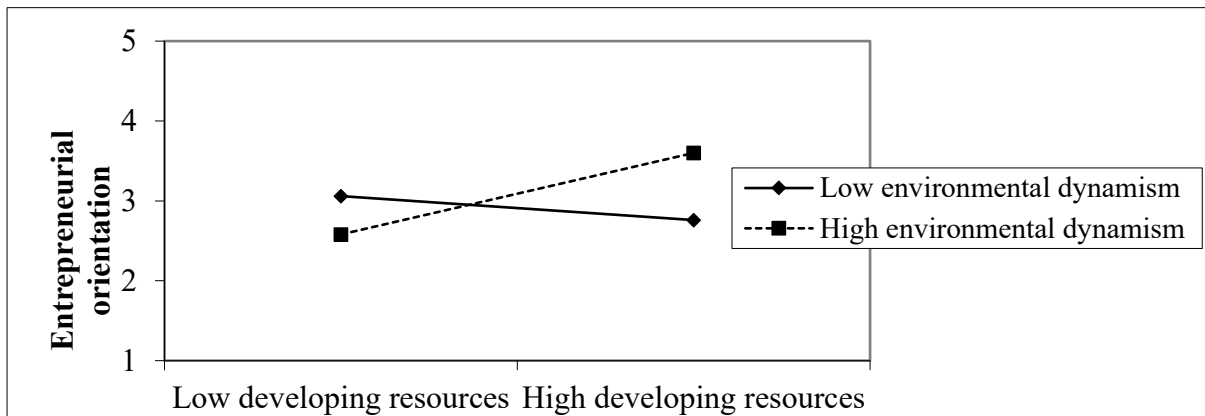
Table 1: Measures and results of validity tests of multi-item constructs for Ghanaian (Study 1) and Ethiopia (Study 2) samples

Measurement items	Standardized loadings (t-values)	
	Ghana	Ethiopia
Innovativeness: α = .85; CR = .86; AVE= .76 / α = .85; CR = .87; AVE= .69		
In our firm, we have a strong emphasis on R&D, technological leadership, and innovations	.79 (1.00)	.80(1.00)
In our firm changes in product or service lines have usually been quite dramatic to achieve competitive advantage	.94 (22.02)	.90(19.20)
In our firm, one of the main goals is to launch many new lines of products/services in the next three years	.89 (19.10)	.89(17.95)
Risk-taking: α = .89; CR = .90; AVE=.66/ α = 0.90; CR = .91; AVE=.62		
In our firm, we see bold, wide-ranging acts are necessary to achieve the firm's objectives	.88(1.00)	.93 (1.00)
In our firm, we have a strong aptitude for high-risk projects (with chances of high returns)	.85 (15.61)	.93(18.34)
In our firm my firm typically adopts a bold posture when confronted with decisions involving uncertainty, to maximize the exploitation of opportunities	.84 (14.29)	.86(16.65)
Proactiveness: α = .89; CR = .90; AVE=.69/ α = .92; CR = .94; AVE= .73		
In our firm, we tend to be ahead of competitors regarding the introduction of products and ideas	.76 (1.00)	.89 (1.00)
In our firm, we typically initiate actions which competitors then respond to	.84 (15.23)	.86 (15.68)
In our firm, we are often the first to introduce new products and services, new ways to produce these, or new administrative methods	.84 (14.88)	.76 (11.98)
Perceived Environmental Dynamism: α = .94; CR = .95; AVE= .78/ α = .78; CR = .80; AVE=.64		
Competitors are constantly trying out new competitive strategies	.79 (1.00)	.92(1.00)
Customer needs and demands are changing rapidly in our industry	.83(15.13)	.78(13.65)
New markets are emerging for products and services in our industry	.75(12.12)	.69(8.58)
Acquiring resources: α = .93; CR = .94; AVE= .68/ α =0.89; CR = .90; AVE= .77		
My initial reaction to things I value is to make them my own	.67(1.00)	.69(1.00)
I instinctively put myself in situations to gain resources	.79 (10.53)	.80 (12.18)
When I see something of value I go after it without much thought	.68 (11.17)	.89 (14.48)
Instinctively, I obtain things	.86 (13.39)	.87 (13.59)
I collect things of potential value without giving it much thought	.89 (15.34)	.86(13.03)
Protecting Resources: α = .89; CR = .91; AVE= .55/ α = .85; CR = .86; AVE= .59		
I instinctively maintain the things I have	.86 (1.00)	.94 (1.00)
I safeguard the things I have against harm or loss	.82 (13.85)	.95(19.22)
It is important to me that I retain the things I have.	.78 (10.61)	.79(14.43)
I am quick to protect the things I have	.85(18.39)	.76(11.56)
I instinctively protect my stuff	.76(10.45)	.77(11.59)
Developing Resources: α = .93; CR = .95; AVE= .73/ α = .88; CR = .90; AVE= .76		
Without much thought, I find new ways to use my resources	.90 (1.00)	.92 (1.00)
I increase the value of things I have	.85 (14.78)	.89(17.34)
I encourage the growth and development of the things I have without much thought	.85 (14.75)	.81 (14.97)
I automatically think to make things stronger or more useful	.77 (12.41)	.67 (8.88)
I instinctively improve the things I have	.78 (13.41)	.77(12.45)
I develop new resources from old resources	.75(10.90)	.84(15.10)

Note: AVE=average variance extracted; CR=composite reliability; α=Cronbach alpha value; t-values in parentheses

Table 2: Descriptive statistics and correlations (Ghana and Ethiopia)

	Variables	1	2	3	4	5	6	7	8	9	10
1.	Firm size (employees)		-.11	-.06	.04	.13	.16*	-.13	-.06	-.08	-.05
2.	Firm age (years)	-.06		-.09	.04	.06	-.08	-.06	-.09	-.06	-.05
3.	Industry[b]	-.05	-.08		.03	.05	.22**	-.09	.10	.08	.10
4.	Entrepreneur's age	.01	.01	.00		-.17*	-.05	-.13*	.13*	.12	.07
5.	Education	.11	.00	.00	-.09		-.05	.08	.24**	.09	.12
6.	Environmental dynamism	.14	-.04	.17*	-.03	-.01		.14*	.10	.13*	.28**
7.	EO	-.12	-.09	-.03	-.11	.05	.11		.23**	.25**	.08
8.	Acquiring resources	-.09	-.07	-.07	.09	.23**	.05	.21**		.29**	.38**
9.	Protecting resources	-.04	-.03	.14*	.06	.08	.12	.29**	.33***		.35**
10.	Developing resources	-.04	-.03	.09	.04	.11	.22**	.09	.26***	.29***	
Mean	Ghana	27.75	8.65	.39	41.34	1.98	5.87	4.66	5.32	3.99	3.47
	Ethiopia	6.85	3.55	.41	48.11	2.98	3.61	3.91	4.03	4.15	4.10
Standard deviation	Ghana	16.17	6.91	.49	5.13	.83	.90	.37	.56	.53	1.21
	Ethiopia	1.92	.79	.48	9.45	1.17	1.33	.60	.70	1.14	.73

Correlations for the Ethiopian sample appear in the upper right half of the matrix, and correlations for the Ghanaian sample appear in the lower-left half of the matrix. *$p < .05$; **$p < .01$.
[a] Industry: 1 = Manufacturing, 0 = Service

Table 3: Results of Hierarchical Regression Models of Entrepreneurial Orientation (Ghana)

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Results summary
	Dependent variable: Entrepreneurial orientation (N = 204)							
Firm age	−.04	−.04	−.04	−.04	−.04	−.03	−.04	
Firm size	−.02	−.03	−.03	−.05	−.02	−.03	−.02	
Industry	−.01	−.02	−.03	−.03	−.02	−.03	−.02	
Education	.07*	.08*	.10*	.11*	.11*	.12*	.08*	
Entrepreneur's age	-.03	-.04	-.05	-.05	-.04	-.04	-.03	
Direct effects								
H1a: Acquiring resources (AR)		.14**	.16***	.16***	.18***	.20***	.14**	Supported
H1b: Protecting resources (PR)		.17***	.18***	.20***	.21***	.23***	.18***	Supported
H1c: Developing resources (DR)		.18***	.19***	.21***	.23***	.24***	.19**	Supported
Environmental dynamism (ED)			.09*	.07*	.08*	.07*	.10*	
Moderating effects								
H2a: AR x ED				.31***			.32***	Supported
H2b: PR x ED					.29***		.30***	Supported
H2c: DR x ED						.33***	.34***	Supported
Model fit statistics								
F-value	.08	4.78***	5.29***	5.76***	7.11***	9.02***	10.18***	
R^2	.06	.08	.11	.14	.18	.22	.28	
ΔR^2	-	.02	.03	.03	.04	.04	.06	
Largest VIF	2.41	1.28	3.09	1.11	2.58	2.10	1.19	

* $p < .10$.; ** $p < .05$; *** $p < .01$; standardized coefficients are shown.

Table 4: Results of Hierarchical Regression Models of Entrepreneurial Orientation (Ethiopia)

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Results summary
				Dependent variable: Entrepreneurial orientation (N = 214)				
Firm age	–.05	–.05	–.06	–.06	–.04	–.05	–.05	
Firm size	–.07*	–.08*	–.07*	–.05	–.08*	–.08*	–.08*	
Industry	–.04	–.05	–.04	–.05	–.03	–.05	–.03	
Education	.14**	.14**	.14**	.14**	.14**	.14**	.13**	
Entrepreneur's age	-.05	-.05	-.04	-.04	-.05	-.04	-.05	
Direct effects								
H1a: Acquiring resources (AR)		.20***	.20***	.21***	.22***	.22***	.21***	Supported
H1b: Protecting resources (PR)		.15***	.15***	.16***	.16***	.16***	.15***	Supported
H1c: Developing resources (DR)		.22***	.22***	.23***	.23***	.23***	.22***	Supported
Environmental dynamism (ED)			.19***	.20***	.20***	.21***	.20***	
Moderating effects								
H2a: AR x ED				.43***			.32***	Supported
H2b: PR x ED					.37***		.30***	Supported
H2c: DR x ED						.39***	.41***	Supported
Model fit statistics								
F-value	.11	5.08***	6.34***	6.98***	7.77***	9.22***	12.38***	
R^2	.09	.13	.17	.21	.26	.29	.34	
ΔR^2	-	.04	.04	.04	.05	.03	.05	
Largest VIF	1.11	2.43	2.89	1.29	3.48	2.79	2.60	

* $p < .10$.; ** $p < .05$; *** $p < .01$; standardized coefficients are shown