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THE OREGON STATE UNIVERSITY BEST PAPER AWARD
FOR THE BEST PAPER ON THE TOPIC
OF ENTREPRENEURSHIP

ON THE EMERGENCE OF INSTITUTIONAL
ENTREPRENEURSHIP TO ADDRESS CLIMATE CHANGE

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ABSTRACT

Extant literature considerably documents the role of various types of entrepreneurship in the attainment
of sustainable development. Research on institutional entrepreneurship—the process of creating
new institutional frameworks or changing existing ones—however, has yet to generate convincing
empirical evidence regarding the contextual antecedent factors of sustainability-oriented institutional
entrepreneurship. Hence, this study investigates how national and cultural contextual factors affect
engagement in institutional entrepreneurship to address climate change within voluntary carbon-offset
markets. Results from event history analysis on a sample of 45 countries suggest that institutional
entrepreneurship for sustainable development is more likely to emerge in contexts where regulations
favor entrepreneurship; and, where culture is more long-term oriented.

INTRODUCTION

Enhancement of global environmental sustainability and overall human welfare presents
opportunities for entrepreneurship (Hall, Danele, & Lenox, 2010). Some individual and organizational
actors recognize and act on these opportunities to effect environmental sustainability and create products
and services aimed at alleviating environmental or social issues (Thompson, Kiefer, & York, 2011).
Institutional actors, particularly politicians and officials involved in the governance of socio-technical
systems (Manning & Reinecke, 2016), also enact opportunities presented by environmental sustainability
issues, but to either create new, or alter existing, institutional frameworks (Dacin, Goodstein, Scott,
2002; Pacheco, York, Dean, & Sarasvathy, 2010). In creating or altering institutional frameworks, these
institutional entrepreneurship can change the way that markets and actors within them operate with
respect to enhancing the quality of human and natural resources (Bjornskov & Foss, 2016; Dorado &
Ventresca, 2013; Smith, Sterling, & Berkhout, 2005). In addition, institutional entrepreneurship enables
for improvements in education, productivity, and physical health within countries (Brown, DeJong
& Lessidrenska, 2009; Child, Lu, & Tsai, 2007; Shepherd & Patzelt, 2017). Given their positions and
influence, institutional entrepreneurship amongst political actors can significantly affect countries’
pursuit of sustainable development. It is thus important that we understand better what influences the
emergence of such entrepreneurial action (Brown et al., 2009; Hoffman & Jennings, 2015).

Institutional entrepreneurship in pursuit of sustainable development can be influenced by the actor
or organization’s social position, and by different field-level conditions (Battliana, Leca, & Boxenbaum,
2009). With respect to the latter, entrepreneurship research well documents the role of field level
conditions such as different national or institutional contexts in driving entrepreneurship in general (for
reviews see: Bruton, Ahlstron, & Li, 2010; Suddaby, 2010; Tolbert, David, & Sine, 2011; Welter, 2011).
Prior research mainly adds to our knowledge of how the institutional context influences individuals
and organizations to establish new ventures or expand products/services offerings in response to sustainable development issues. Nevertheless, these studies also understate the fact that governance actors – i.e. those who actively work to manage institutional frameworks (Manning & Reinecke, 2015) – can themselves be influenced by the contexts they work in and create (Giddens, 1984; c.f. McMullen, Wood, & Kier, 2016). In addition, the qualitative micro- and meso-level focus of prior studies does little to aid scholarly understandings of culture’s role in institutional entrepreneurial behavior (Bjornskov & Foss, 2016; Hayton, George, Zahra, 2002; Mueller & Thomas, 2001; Thomas & Mueller, 2000). Notably, sustainable development issues like climate change and other related environmental problems, in being culturally rooted, can only be addressed properly with more empirical evidence regarding the interactions between institutional and cultural contextual factors, and actions such as institutional entrepreneurship (Ansari, Wijen, & Gray, 2013; Hoffman, 2010; Howard-Grenville, Buckle, Hoskins, & George, 2014).

To help close the gap in institutional entrepreneurship research, we address the following question: how is institutional entrepreneurship for sustainable development influenced by national and cultural contextual factors? Informed by prior research, we distinguish between different dimensions of the institutional context – arguing that regulatory, normative, and cognitive contexts that favor entrepreneurship can influence institutional entrepreneurship for sustainable development. Further, incorporating insights from work on the social construction of time (Huy, 2001; Lawrence, Winn, & Jenkins, 2001; Navis & Glynn, 2010), we suggest that countries’ cultural context, when long-term oriented, also influences governance actors’ to address sustainable development issues (Bansal & Knox-Haynes, 2013). Empirical evidence regarding these arguments is generated from an event history analysis of countries’ participation in the United Nations’ Reducing Emissions from Deforestation and Degradation Program (REDD+ Partnership, 2013).

Results indicate that regulatory contexts favoring entrepreneurship and a long-term oriented culture influence institutional entrepreneurship for sustainable development positively. In addition, a long-term oriented culture positively moderates the effect of regulatory and cognitive institutional contexts favoring entrepreneurship, in influencing institutional entrepreneurship for sustainable development. Altogether, this study demonstrates the utility of taking a configurational approach to studying institutional entrepreneurship (Pacheco et al., 2010). Second, the finding that culturally held beliefs regarding time affect institutional entrepreneurship for sustainable development re-emphasizes the relevance of accounting for time when theorizing about entrepreneurship and sustainable development (Slawinski & Bansal, 2012). Finally, quantitative studies of institutional entrepreneurship for sustainable development are a rarity. Hence, the analyses undertaken herein provides for a more solid foundation upon which to extend institutional entrepreneurship research by complementing qualitative case studies (c.f. Thompson et al., 2011).

HYPOTHESIS DEVELOPMENT

Regulatory Context and Institutional Entrepreneurship for Sustainable Development

The regulatory component of countries institutional context involves factors such as the efficiency and predictability of taxes; government policies in support of new business activity; and ease of new business licensing and certification (Busenitz, Gomez, & Spencer, 2000; Manolova, Eunni, & Gyoshev, 2008; Reynolds et al., 2005). A strong regulatory context with respect to entrepreneurship gives actors better capacity to establish rules, inspect conformity to those rules, and manipulate sanctions in order to regulate behavior with respect to starting and governing businesses. Conversely, a weak regulatory context increases the opportunity costs of actions regarding entrepreneurship for individuals due to
the uncertainty of the regulatory framework (Aidis, Estrin, & Mickiewicz, 2012). Given the complexity of sustainability issues, having a stronger regulatory context gives institutional entrepreneurs a better foundation to build upon in the pursuit of institutional change for sustainable development (cf. Dorado & Ventresca, 2013; Ferraro, Etzion, & Gehman, 2015). When the regulatory context favors entrepreneurship, national actors advocating regulatory change in support of sustainable development benefit from less uncertainty regarding transaction costs involved in acting entrepreneurially. National actors can thus avoid costly transactional and adaptation costs associated with enacting institutional change in the presence of a strong regulatory context for entrepreneurship. Accordingly, we hypothesize that:

H1a: The more countries’ regulatory context favors entrepreneurship, the greater the likelihood of institutional entrepreneurship for sustainable development amongst national actors.

Normative Context and Institutional Entrepreneurship for Sustainable Development

The normative context emphasizes social obligations and appropriateness as the basis for encouraging or constraining human interaction (Scott, 1995; 2008). Regarding entrepreneurship, the normative context refers to the degree to which enterprising activity, and creative or innovative thinking are considered legitimate means of pursuing valued ends (Busenitz et al., 2000; De Clerq, Danis, & Dakhli, 2010; Scott, 2008). A normative context encouraging of entrepreneurship, in addition to encouraging entrepreneurial action amongst actors, facilitates the breakdown of barriers to such action (Stenholm, Acs, & Wuebker, 2013). The greater the normative context for entrepreneurship, the more national actors’ prescriptive, evaluative, and obligatory frames of reference will condone entrepreneurial action. This is likely given that strong normative contexts toward entrepreneurship encourage the application of perpetual reasoning to value systems and norms, by influencing the prescriptive, evaluative, and obligatory dimensions of social life (Scott, 1995). Perpetual reasoning refers to the logic of using human and natural resources in a way that enhances and maintains the quality of their functioning for the longest time possible (Parrish, 2010). As Dorado & Ventresca (2013) suggest, a strong normative context makes institutional entrepreneurs more aware of any disconnect between how things should be and how they presently are with respect to sustainable development issues. Further, in order to reduce the unpleasantness of this ‘dissonance’ they are more likely to engage in sustainability-oriented enterprising activity such as voluntary carbon-offset adoption practices. The pursuit of institutional entrepreneurship for sustainable development, in this case, is the result of actors’ quests to attain the moral legitimacy that accompanies a strong normative institutional context. Accordingly, we hypothesize that:

H1b: The more countries’ normative context favors entrepreneurship, the greater the likelihood of institutional entrepreneurship for sustainable development amongst national actors.

Cognitive Context and Institutional Entrepreneurship for Sustainable Development

The cognitive context shapes the nature of reality and the frameworks through which actors interpret information (Stenholm et al., 2013; Kostova & Roth, 2002). Given strong cognitive contexts, actions occur because the routines governing them become ‘taken-for-granted’ (pg. 57). For entrepreneurial activity, the cognitive context reflects issues such as prior experience with start-up activity; identification and exploitation of profitable opportunities; perceived resource orchestration abilities; and confidence in management and growth of new businesses (Busenitz et al., 2000; De Clerq et al., 2010). A stronger cognitive context towards entrepreneurship leads to reduced cognitive burden on actors regarding enterprising activity (De Clerq et al., 2010). When favoring entrepreneurship, the cognitive context influences institutional entrepreneurship for sustainable development by
providing actors with the knowledge and capabilities to recognize and exploit sustainable development opportunities. Actors embedded within cognitive institutional contexts favoring entrepreneurship will be more aware of entrepreneurial opportunities as they benefit from the shared experiences and knowledge of others (Manolova et al., 2008). They are also more likely to recognize shortfalls in that knowledge given the complexities surrounding sustainable development issues. The cognitive dissonance that this recognition creates necessitates initial engagement, where actors use outcomes as reference points to redefine and improve upon the initial plan. Institutional entrepreneurs will thus engage in sustainability-oriented institutional change both, 1) to reduce this cognitive dissonance; and, 2) to generate common frames of reference for addressing sustainable development issues (Dorado & Ventresca, 2013; pg. 76). Accordingly, we hypothesize that:

H1c: The more countries' cognitive context favors entrepreneurship, the greater the likelihood of institutional entrepreneurship for sustainable development amongst national actors.

Long-term Culture and Institutional Entrepreneurship for Sustainable Development

National culture refers to shared meanings between actors that guide behavior (Hofstede, 2001). Countries' cultural context can be classified along several dimensions including, for example, uncertainty avoidance, gender egalitarianism, power distance, and future orientation (House, et al., 2004). Previous research has already generated evidence regarding how the different dimensions of culture matter in relation to entrepreneurship activity (Hayton et al., 2002). For this study, we focus on future or long-term oriented culture in particular since actors’ consideration of time is inherent to the concept of sustainable development. With respect to economic activity, cultural contexts can encourage actions that facilitate either short-term goal attainment (e.g. efficiency gains) or long-term goal attainment (e.g. research and development). Cultural contexts that are more long-term oriented allow for the alignment of actors’ views of time with sustainable development’s view of time. This is because actors embedded within such a context will be more willing to address the uncertainty surrounding complex sustainable development issues (cf. Strickland, Lewicki, & Katz, 1966). They will also possess temporal capabilities, which enable them to address said issues (Huy, 2001). Within a more long-term oriented cultural context, actors’ are also better able to establish a connection between their individual actions and the collective outcome for sustainable development (Dorado & Ventresca, 2013). As literature suggests, entrepreneurial action for sustainable development is more likely to emerge when actors favor long-term oriented actions and outcomes (Parrish, 2010; Wang & Bansal, 2012).

H2: The more countries’ cultural context favors a long-term orientation, the greater the likelihood of institutional entrepreneurship for sustainable development amongst national actors.

A long-term oriented culture may also have an indirect effect on institutional entrepreneurship by moderating the individual effects of the prior three institutional dimensions. First, for regulatory institutions a cultural context that favors long-term oriented actions encourages the formation of formal regulations that aid in reducing uncertainty regarding the future. As found by Fischer et al. (1997), actors within an organizational context tend to enact with time in a manner that best aligns with their current and future objectives regarding growth. Secondly, for normative institutions a greater long-term orientation of the cultural context encourages greater moral and pro-social norms regarding enterprising activity. This is because the distancing of the decision to act and the reward increases honest and moral behavior (Ruffle & Tobol, 2014). As prior studies suggest, actors' emotional responses tend to be more severe for future events than for past events; and because such emotional reactions often guide moral intuitions, judgments of moral behavior may be more severe in prospect than in retrospect (Caruso, 2010). Thirdly, for cognitive institutions a greater long-term orientation of
the cultural context encourages experimentation and risk-taking for sustainable development. A long-term oriented cultural context, because it encourages future oriented actions, will therefore heighten actors' ability and willingness to recognize and address knowledge gaps regarding resolving sustainable development issues (Hofstede, 2001). Accordingly, we hypothesize that:

\[ H3 \text{ – The more countries’ cultural context favors a long-term orientation, the greater the effect of a) regulatory, b) normative, and c) cognitive contexts favoring entrepreneurship on institutional entrepreneurship for sustainable development amongst national actors. } \]

**METHOD**

Data on countries' participation in REDD+ activities was obtained from the Voluntary REDD+ Database (VRD), which aims to improve effectiveness, efficiency, transparency, and coordination of REDD+ initiatives (REDD+ Partnership, 2013). We supplement the VRD with data from the Global Entrepreneurship Monitor National Expert Survey (GEM-NES) (Reynolds et al., 2005); and the Global Leadership & Organizational Behavior Effectiveness project (GLOBE) (House et al., 2004). Similar to previous studies we use the GEM-NES (Youafzai, Saeed, & Muffatto, 2015) and GLOBE (Gupta, Hanges, & Dorfman, 2002) data to obtain relevant measures of countries' institutional and cultural contexts. Control variables as used in prior research were sourced from the World Bank’s World Development Indicators (WDI) and the Heritage Foundation's Index of Economic Freedom (Aidis et al., 2012; Anokhin & Schulze, 2009; De Clercq, Lim, & Oh, 2013; Estrin, Korosteleva, & Mickiewicz, 2013; Estrin, Mickiewicz, & Stephan, 2013).

Our dependent variable measures whether a country adopted REDD+ within a given year. The independent variables account for the extent of countries' Regulatory Context; Normative Context; Cognitive Context; and Long-term Orientation. The control variables used include GDP per capita; Natural Resource Use; Electricity Production Population Growth; Economic Freedom Index; Environmental Protection Index; Land Area for Cereal Production; Landlocked dummy; Previous REDD+ adoptions.

The final sample features 280 for 45 countries across the period 2006-2015. Preliminary analyses included Variance Inflation Factors (VIFs) tests – all below 10; and tests of the proportional hazards assumption – which were not violated. We subsequently tested the hypotheses using Cox proportional hazard regressions.

**RESULTS**

Support was found for hypothesis 1a, as the direct effect for a regulatory context favoring entrepreneurship is positive and significant \( (\beta_p < 0.01) \). In contrast, no support was found for hypotheses 1b and 1c. The coefficient for countries’ normative context is negative and not significant (n.s.); and the coefficient for cognitive context is positive but not significant (n.s.).

Regarding the hypothesized effects of long-term oriented culture, we find support for hypothesis 2 as the coefficient for long-term orientation is significantly positive in relation to REDD+ adoption \( (p < 0.01) \). In addition, we find support for hypotheses 3a and 3b. In detail, the coefficients for the interactions between long-term orientation and regulatory \( (p < 0.05) \), and cognitive \( (p < 0.01) \) contexts are each positive and significant. The results did not provide support for hypothesis 5b regarding the interaction of long-term orientation and normative contexts (n.s.).
DISCUSSION & IMPLICATIONS

The central issue within this paper is the lack of compelling evidence regarding the influence of the national and cultural contexts on entrepreneurship for sustainable development amongst political actors (Bjornskov & Foss, 2016). This study thus investigated the interrelationships among regulatory, normative, cognitive contexts favoring entrepreneurship, long-term oriented national culture, and institutional entrepreneurship for sustainable development in the form of enactment of voluntary carbon abatement agreements. The findings show that regulatory contexts when favoring entrepreneurship, and cultural contexts when long-term oriented can influence national actors to take action favoring environmental sustainability, in this case, enacting REDD+ arrangements. In addition, countries’ culture when favoring a long-term orientation positively moderates the effect of regulatory and cognitive contexts on REDD+ enactment. With respect to entrepreneurship literature, our findings hold the following implications.

First, findings of this study are consistent with previous research stressing the relationship between context and institutional entrepreneurship (Dorado & Ventresca, 2013). Here, however, we deepen and extend understandings of this relationship by demonstrating that actors at the national level themselves can be influenced to create or change institutions given regulatory contexts favoring entrepreneurship, and cultural contexts emphasizing a long-term orientation (cf. McMullen et al. 2016). Additionally, similar to other studies, our results failed to establish a direct relationship between the normative and cognitive contexts favoring entrepreneurship and entrepreneurial activity (Estrin et al., 2013; Stenholm et al., 2013). In other words, it may not matter for institutional entrepreneurship that enterprising activity is favored or emphasized in training and education programs. Together, we believe these results show that the national context, in particular features such as regulations and the judicial system, directly influences entrepreneurship amongst individual, firm, industry, and political actors (Bjornskov & Foss, 2016).

Second, studies of entrepreneurship have failed to generate empirical evidence regarding the effect of actors’ enactment of time on entrepreneurship for sustainable development (Buhr, 2012). With temporality being an integral aspect of both institutional entrepreneurship (Buhr, 2012) and sustainable development (Bansal & DesJardine, 2014), provision of such evidence is vital for advancing knowledge regarding entrepreneurship’s role in addressing sustainable development issues. Moreover, explicitly accounting for time is all the more important when studying institutional entrepreneurs addressing sustainable development issues such as climate change, given the complex and temporal nature of such issues (Bansal & Knox-Haynes, 2012; Dorado & Ventresca, 2013). Notably, as in the case of research on institutional work (Zietsma & Lawrence, 2010), our results confirm that context-specific cultural norms regarding time do play a role in the establishment of new—or the changing of existing—insitutions (Granqvist & Gustafsson, 2016).

Finally, prior studies on institutional entrepreneurship for sustainable development have been mainly qualitative in nature (e.g. Child, Lu, & Tsai, 2007; Henfridsson & Yoo, 2014; Lawrence & Phillips, 2004; Prasad, Prasad, & Baker, 2016; Wright & Zammuto, 2013). Thus, in addition to responding to calls for greater examination of entrepreneurship in relation to climate change (Howard-Grenville, et al., 2014), this study also added to the limited number of quantitative studies in this research area. This, we believe, demonstrates the utility to be found by management scholars in seeking the answers to lingering theoretical and practical problems beyond the realm of traditional management research and data.

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