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Being good when not doing well: Examining the effect of the economic downturn on small manufacturing firms' ongoing sustainability-oriented initiatives

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Abstract

How firms behave under conditions of decline and resource constraints has not been considered in the corporate sustainability literature. This leaves unanswered the question how much we should rely on firms' sustainability-oriented voluntary initiatives at a time when the global economy continues to be weak and firms face persistent threats of decline. In addressing this question, we first argue that the effect of a decline would be different for peripheral and core initiatives. Using data gathered from 478 small firms representing multiple manufacturing sectors in the US through a survey, we empirically demonstrate that a decline in a firm's financial performance is associated with a higher decline of peripheral initiatives than of core initiatives. We further found that a decline in peripheral initiatives was even greater when a firm operated in a relatively dynamic context. Contextual dynamism, however, did not affect decline in core initiatives.

Introduction

The economic recession of 2008 brought both large and small firms under unprecedented financial pressure, although small firms were hit much more severely. In the US alone, approximately 170,000 small firms went out of business during the recession (The Huffington Post, 2012). As firms were grappling with eroded finances, concerns were also growing about the fate of their ongoing sustainability—both social and environmental—commitments. The Economist (2009) noted that the recession was "a test of companies' commitments to doing good," while other media were reporting cutbacks in ongoing sustainability commitments (Willman, 2008). But, besides such conjectural judgments and reports, there were few attempts to systematically understand posture toward ongoing sustainability initiatives during this period. As such, firm behavior under conditions of decline and resource constraints is not a new topic in the management literature (Levine; 1978; Whetten, 1980); however, to date it has not been considered in corporate sustainability and corporate social responsibility (CSR) literature. Previous literature explicitly recognizes the role of slack resources in firms' sustainability initiatives (Amato & Amato, 2011; Perez-Batres, Doh, Miller & Pisani, 2012; Ullmann, 1985; Waddock & Graves, 1997); yet, to the best of our knowledge, no study has so far examined specifically the effect of diminished resources on firms' ongoing initiatives. This oversight is understandable because the prevailing ideology in our society (and the majority of business literature) emphasizes resource abundance and considers economic growth a normal organizational condition. Yet, this oversight is severe because it leaves us wondering how much we should rely on firms' voluntary initiatives at a time when the global economy continues to be weak and firms face persistent threats of decline (Trahms, Ndofor & Sirmon, 2013). If sustainability-oriented initiatives turn out to be disposable with decline in a firm's resources, our

faith in business as a meaningful partner in sustainability is ill-founded. Then again, if these initiatives were resilient to resource changes, we would have reason to rely on sustained business commitment to sustainability.

In this paper, the authors set out to examine the resilience of small manufacturing firms' ongoing sustainability-oriented initiatives during the economic downturn of 2008. We focused on small firms for several reasons: they often have small pools of slack resources to draw on during a period of economic downturn; they constitute the majority of all firms; they are paramount to environmental and social sustainability; and they are not well-represented in corporate sustainability/CSR research (Aragón-Correa, Hurtado-Torres, Sharma, & García-Morales, 2008; Battisti & Perry, 2011). Because sustainability-oriented initiatives are not characteristically homogenous (Orlitzky, Siegel, & Waldman, 2011), we assumed that they would not be uniformly resilient to an economic downturn. For example, some initiatives are guided primarily by normative considerations (Marcus & Fremeth, 2009), and others by instrumental considerations (Siegel, 2009). Similarly, some initiatives are substantive while others are more symbolic (Perez-Batres, Doh, Miller & Pisani, 2012). Also, some initiatives could be embedded in a firm's strategy and core to a firm's business, yet others are more peripheral (Hannan & Freeman, 1984).

In this study, we adopted the core-periphery typology (Fiss, 2011) to examine the effect of a firm's declining resources on the resilience of sustainability-oriented initiatives. The core-periphery typology captures the way in which the human mind fundamentally classifies activities (Hahn & Chater, 1997). It has been employed to explain knowledge structures that top management uses in making strategic decisions (Porac & Rosa, 1996), and also in literatures on organizational decline (Zammuto & Cameron, 1982) and CSR (Aguinis & Glavas, 2013) that

are both pertinent to this study. We apply the typology to study the overall effect of the economic downturn on firms' sustainability initiatives as an interaction between firm and industry level changes. In so doing, we first examine the effect of a decline in a firm's financial performance. Further, because an economic downturn does not affect a firm's resources alone, it also creates a highly dynamic context within an industry that profoundly affects a number of decisions that firms make (Li & Liu, 2014), we also investigate an interaction effect that a firm's financial performance and its contextual dynamism produce on its sustainability initiatives.

The remainder of this paper proceeds as follows. In the following literature review section, we first briefly review the organizational decline literature particularly focusing on firms' actions during a period of decline. We then summarize general characteristics of small firm engagement in sustainability issues to foreshadow a focused discussion about possible effects of the economic downturn on core and peripheral initiatives that appears in the subsequent hypotheses development section. The succeeding data and methodology section, divided into four parts, details the sampling plan, data sources, study measures, and their psychometric properties. The analysis and results appear concurrently in the section that follows. Next appears the discussion section wherein we place our results within larger theoretical and managerial considerations. The paper concludes with summarizing our contributions and outlining limitations that potentially restrict the reach of our results.

Literature review

Organizational decline

Organizational decline refers to a broad range of conditions that could negatively impact a firm. While some scholars consider decline only when the impact is sustained over a longer period of

time (Bruton, Oviatt & White, 1994), others consider it as a substantial deterioration in a firm's resource base that impacts a firm in both short and long terms (Mone, Mckinley & Barker, 1998). Organizational decline presents a threat to an organization's viability and may manifest as reductions in market share, financial losses, or reduced demand and sales (Mone et al. 1998). It may either occur as a result of external factors such as a gradually diminishing industry or a suddenly emerged crisis (Park & Mezias, 2005), or of internal factors such as outmoded strategies or operational inefficiencies (Morrow, Sirmon, Hit & Holcomb, 2007). Moreover, most firms face decline at some point (Trahms, Ndofor & Sirmon, 2013).

A decline is associated with a number of firm-level dysfunctions. Declining firms experience higher levels of internal conflict, low organizational morale, and self-protective behaviors among employees—all of which ultimately cause a firm to conserve resources. According to Schoenberg and colleagues (2013), firms' various actions to cope with the decline, can be summed up as targeting cost efficiencies, retrenching low performing assets, focusing on core activities, and preparing for the future. Firms may pursue these actions separately or in combination.

Cost efficiency-oriented measures are often taken first as firms grapple with resource constraints. Such measures, characterized as "belt tightening" or "fire-fighting", are aimed at stabilizing finances by improving cash flow (Sudarsanam & Lai, 2001). But, when the "low hanging" fruits of cost efficiency are not enough, firms resort to the asset retrenchment route wherein they divest their low performing assets. Retrenchment is useful only when firms are able to generate cash flow from any disposal (Filatotchev & Toms, 2006), which is often difficult due to asset specificity, liquidity in the second hand market, and exit barriers. Retrenchment decisions are inevitably complex because, on the one hand, firms bear the risk that asset sales might

compromise future strategic options, while facing compulsions to generate cash for meeting current demands (Schoenberg et al., 2013).

A focus on the firm's core activities is repeatedly identified as a decline management strategy and is often used in parallel with asset retrenchment (Boyne & Meier, 2009). This strategy essentially translates into determining and focusing on the markets, products and customers that have the potential to generate the greatest profits for a firm. Focusing on core activities might also entail organizational restructuring so a firm can align more effectively with its core purpose. Such a restructuring often involves closure of those operations, products, or markets that do not fit with the firm's purpose (O'Neill, 1986) Finally, firms may also pursue a "prepare or build for the future" strategy, but often only when the immediate crisis has passed and the financial position has somewhat stabilized (Filatotchev & Toms, 2006). These promotion-focused firms invest in market development and asset acquisition during a decline and lay the foundation of a competitive advantage that they would hope to have over their competitors in a post-decline era (Gulati, Nohria & Wohlegezogen, 2010).

In view of the courses of action proposed to deal with organizational decline (Schoenberg et al., 2013), it is not surprising that firms' sustainability-oriented initiatives can come under pressure. Notwithstanding the appeal of the business case for sustainability, so far the evidence remains inconclusive as to whether such initiatives lead to substantial financial gains and whether they are part of core business activities (Devinney, 2009). But before we develop our hypotheses about the relation between organizational decline and the resilience of sustainability initiatives, next we clarify the idiosyncrasies of sustainability in a small-firm context.

Small firms' sustainability-oriented behavior

In contrast to previously held views, it is now well understood that small firms' sustainability-oriented behavior is not just a scaled down version of large firms' behavior but is rather characteristically different (Spence & Lozano, 2000; Tilley, 2000). Emphasizing this uniqueness, Lepoutre and Heene (2006) even coined the term *small business social responsibility*. The extant literature highlights key characteristics of small firms' commitment to sustainability. First of all, there is a substantial overlap between business relationships and personal networks of small firm owners (Longenecker et al., 2006). A commitment to sustainability is therefore a matter of personal pride to them. In fact, small firms view any negative press concerning their impact on the community and environmental wellbeing as "indelible stains on themselves" (Dyer & Whetten, 2006: 789) and thus take sustainability-oriented initiatives seriously with a clear intention to make a positive difference in their local environment. Relatedly, small firms approach these initiatives in a personalized and informal manner (Russo & Tencati, 2009; Spence & Rutherfoord, 2003), and often intervene in areas that both align with the values of their owners and the needs of the surrounding community (Smith & Oakley, 1994).

In terms of sustainability focus, small firms are traditionally well-known for their close community connections (Lähdesmäki & Suutari, 2012). In fact, they often view success in terms of legitimacy granted to them by local stakeholders (Perrini, 2006) and by their reputation in the surrounding community (Darnall, Henriques, & Sadorsky, 2010). Small firms tend to support and sponsor community wellbeing programs (Amato & Amato, 2007). In the US, for example, three-quarters of small business owners donate to a number of causes, and with a much higher percentage of profits than that of larger firms (The Chronicle of Philanthropy, 2008). Many also try to have a positive impact in a number of other ways (Blackburn & Ram, 2006), such as by

extending their support to local non-profits through their employees' time and expertise (Fitzgerald et al., 2010).

For a long time, however, it was held that small firms engage in environmental activities only at a modest level because of their resource constraints (Aragón-Correa et al., 2008), cost disadvantage in implementing environmental initiatives relative to larger firms (Darnall et al., 2010), subpar levels of eco-literacy (Schaper, 2002), and the minimal pressure they face from society and activist groups to improve environmental performance (Wehrmeyer, 2000). Over the past decade this belief has changed though, and several recent surveys conclude that small firms proactively address environmental challenges (Battisti & Perry, 2011; Revell, Stokes, & Chen, 2010).

In summary, sustainability-oriented initiatives of small firms are fundamentally different from those of large firms. At face value, one might expect that their resilience is more vulnerable to organizational decline due to the limited resources small firms have to maintain them in difficult times. Then again, the initiatives small firms undertake tend to be more a matter of personal pride which they cannot suddenly stop, as this would hurt their position in the local environment. The question remains, therefore, what would happen to small firms' ongoing sustainability initiatives within an economic downturn?

Hypotheses development

In developing our hypotheses, we first consider the effect of organizational decline as a firm-level variable, i.e. a decline in financial resources. Although it is not uncommon to view sustainability initiatives as an added cost of doing business (Siegel, 2009), such initiatives are also recognized for the various tangible and intangible benefits they could offer to a firm (Hart,

1995). This business case view has so deeply permeated contemporary management thinking (Hahn, Preuss, Pinkse & Figge, 2014) that, for a majority of firms, it is unlikely they will consider all sustainability initiatives as a dispensable cost item. Instead, we believe that firms would categorize the various initiatives as core and peripheral (Yuan, Bao & Verbeke, 2011). Core initiatives are essential for firms in that they rely on them for their marketing and also for achieving their mission (Hannan & Freeman, 1984); peripheral initiatives, in contrast, remain expendable or even exchangeable (Fiss, 2011). Any distinction between core and peripheral activities is highly context-dependent (Gilley & Rasheed, 2000). While both contribute to an organization's success in the long run, peripheral activities are not critical. Janitorial services within an organization, for example, are not critical for an organization's success and are therefore peripheral. Customer service for a service oriented firm, on the other hand, is a core activity. Thus, our proposition here is that when firms face a decline in their financial resources, they would strive to conserve their core sustainability initiatives, while retrenching the peripheral ones.

But which sustainability initiatives are core and which ones are peripheral? While such a classification might entail a separate study, here in the context of small manufacturing firms, for several reasons, we contend that it is primarily the environmentally-oriented initiatives that befit the definition of core initiatives, whereas community initiatives are better classified as peripheral. Firstly, many environmental initiatives typically determine a firm's production processes or product features (Gilley et al., 2000). Secondly, because environmental initiatives typically consort formal environmental management systems (Gonzalez-Benito & Gonzalez-Benito, 2005), they interact with many sub-systems of a firm (Siggelkow, 2002) and inter-connect them (Hannan, Burton & Baron, 1996). Similarly, environmental initiatives are often

tied to firms' marketing strategies (Aragón-Correa, 1998). Furthermore, environmental initiatives of small firms are often driven by demands of their downstream supply chain partners (Hall, 2000; Schaper, 2002) and hence a key component of a firm's marketplace competitiveness. Consider, for example, a Forest Stewardship Council certified furniture manufacturing firm. Eco-labeled products affect its marketing strategy and its choice of buyers and suppliers. Similarly, a firm that is committed to becoming more energy-efficient or strives to reduce its waste would often employ new technology or machinery. Overall, many environmental initiatives penetrate deep into a firm's internal management, operations, and marketing domains, and are therefore a core part of the organization.

By comparison, community initiatives are relatively more peripheral because too often small firms engage in community initiatives in an *ad hoc* manner such that community initiatives are neither tied to their business strategy (Jenkins, 2006), nor to market development or brand promotion plans (File & Prince, 1998; Varadarajan & Menon, 1988). During a period of decline, while small firm owners might still remain motivated toward community initiatives on a personal level, this *ad hoc* nature of community initiatives would press them to reconcile their personal motivations with their firm's financial necessities. Previous research also confirms that during a period of decline, firms typically choose to dedicate their resources to core operations, focus on short-term survival strategies centered on budget tightening (Ofek, 1993; Latham & Braun, 2011; Staw, Sandelands, & Dutton, 1981), and curtail their expenditures associated with nonfinancial stakeholders (Maksimovic & Titman, 1990; Opler & Titman, 1994). We argue that small-firm owners would resolve the dilemma between their personal motivations to engage in community initiatives and the immediate need for survival through a "put on hold" strategy by temporarily discontinuing their community initiatives. Certainly, not all environmental initiatives are core,

nor are all community initiatives peripheral, but we believe that for an average small-sized manufacturing firm, environmental initiatives would more aptly fit as core and community initiatives as peripheral.

Overall, it would be relatively easier for firms to downscale or discontinue peripheral community initiatives because discontinuing or cutting back core environmental initiatives would disrupt existing equilibriums, result in organization-wide changes, and would leave far-reaching impacts on a firm's marketing mix. Core environmental initiatives essentially create a strategic lock-in for a firm. Peripheral community initiatives, though still important to a firm, could be more easily decoupled since they are often not strongly connected to a firm's sub-systems. Moreover, various costs associated with core initiatives exhibit stickier behavior relative to those associated with ancillary or peripheral functions (Balakrishnan & Gruca, 2008), making the discontinuation of core initiatives disproportionately expensive and the discontinuation of peripheral initiatives a more likely option for small firms, as a consequence. Overall, we contend that while a decline in firms' financial resources might negatively affect both core and peripheral initiatives, the effect would be stronger for peripheral initiatives. Therefore, we hypothesize:

> H1: A decline in small firms' financial performance is associated with a higher decline in their peripheral sustainability-oriented (i.e. community) initiatives than in their core sustainability-oriented (i.e. environmental) initiatives.

An economic downturn does not only affect a firms' financial situation, but it also dramatically transforms the organizational contexts in which firms operate as they adopt different strategic postures in response to changes in general economic conditions. For example, some firms take

defensive postures by focusing on cost or asset reduction (Gulati, Nohria, & Wohlegezogen, 2010), while others take aggressive postures by engaging in price competition, innovative differentiation, entrepreneurial practices, and new market penetration (Miles et al, 2000; Miller, 1988). Reaction of competitors to such hastened actions may create a domino effect ultimately leading to a highly dynamic organizational context.

The dynamism in the organizational context, defined as the extent of unpredictable changes in a firm's business environment (Baum & Wally, 2003; Sirmon, Hitt, & Ireland, 2007), creates a boundary condition for the effects of a number of firm-level actions on performance (Li & Liu, 2014). Previous studies find that contextual dynamism moderates the relationship between a firm's financial performance and its capital structure (Simerly & Li, 2000), CEO's scanning emphasis (Garg, Walters, & Priem, 2003), and strategic posture (Miles et al., 2000). More directly relevant to our study, Goll & Rasheed (2004) find that dynamism moderates the relationship between a firm's community and environmental initiatives and its financial performance. But what role may contextual dynamism play when small firms are scaling down their core and peripheral initiatives because of a decline in financial performance, as hypothesized above?

In order to remain competitive in highly dynamic organizational contexts, firms focus on product and process innovation, find new markets, and create innovative differentiation (Sirmon et al., 2007). Innovation and differentiation are thus two major areas of competitive focus for firms operating within dynamic contexts, and core environmental initiatives can offer a firm capabilities to innovate and differentiate as outlined in previous literature (Cronin et al., 2011; Dangelico & Pujari, 2010). Moreover, a highly dynamic context forces firms to quickly respond to macro-level changes (Wallace et al., 2010), also pushing them to seek benefits through

emergent policy frameworks such as those embedded in green recovery in recent years (Stiglitz & Stern, 2009). Overall, we contend that a dynamic industry context would tend to stabilize the decline in firms' core environmental initiatives associated with a decline in their financial performance.

On the other hand, firms' community initiatives that are considered more peripheral would - by definition - not enhance their innovation and differentiation capabilities that are much valued amidst dynamic organizational contexts. This is particularly true for small firms that approach community initiatives less instrumentally and more normatively (Fitzgerald et al., 2010). In fact, their established reputation for community initiatives may even allow them to have a temporary abeyance without any threats to legitimacy; and thus free up some of their community-oriented resources to allocate to areas of higher priority. We would thus expect that the decline in small firms' peripheral community initiatives associated with a decline in their financial performance would be even greater when firms operate within a dynamic as opposed to a stable context. Therefore, we hypothesize:

> H2a: The decline in core sustainability-oriented (i.e. environmental) initiatives as a result of a decline in firms' financial performance is lower when firms operate in a relatively dynamic organizational context

> H2b: The decline in peripheral sustainability-oriented (i.e. community) initiatives as a result of a decline in firms' financial performance is higher when firms operate in a relatively dynamic organizational context

Data and methodology

For our empirical analysis, we chose to focus on small manufacturing firms in five industry sectors: food, wood products, furniture, paper, and chemical products. These five sectors were selected because together they represent a variety of organizational contexts to study firms' community and environmental initiatives. The wood, paper, and furniture sectors, for example, represent a context where community and environmental initiatives are especially important for organizational legitimacy (Panwar, Hansen & Kozak, 2014). The food sector was included because of a likely presence of supply-chain drivers for small firms to pursue such initiatives and also for enhanced consumer visibility of these firms (Hartmann, 2011; Maloni & Brown, 2006). The chemical sector represents a capital-intensive context where environmental concerns are paramount (Delmas, Hoffmann, & Kuss, 2011). Moreover, these sectors are populated by a large number of small firms and hence appropriate for this study.

Measures

Because of the small-firm context of this study, we did not use the readily-available indicators (such as the ones used in the KLD database or Fortune Rankings) to assess community and environmental engagement. Instead, drawing on the existing literature pertinent to the five industry sectors, we first developed a list of eight initiatives each in community and environment categories. We then sent this set of initiatives to a select group of experts drawn from academia, NGOs, and industry organizations with a request to indicate the relevance of these initiatives for small firms across the five industry sectors. We ended up with three community and four environmental initiatives, which we used in this study to assess changes in a firm's community and environmental initiatives (see Table 2). We argue that these environmental and community

initiatives represent the core and peripheral sustainability initiatives respectively, as previously discussed. Survey recipients were asked on a bipolar scale to indicate the degree of change in these seven initiatives for the period 2008-2011 (see Table 2).

Because of the small-firm context of the study, we assessed changes in financial performance using subjective measures, which were recommended by previous studies (Dess & Robinson, 1984; Morgan & Strong, 2003). Specifically, we included the following five financial performance items: return on sales, return on investment, rate of sales growth, net profit, and cash flow. Respondents were asked to indicate the changes in financial performance that had occurred in their firms over the period between 2008 and 2011 (see Table 2).

Contextual dynamism in the organizational context was measured using a three item scale developed by Khandwala (1976-77). This scale has been widely used in organizational theory and strategic management literatures (Calantone, Schmidt, & Benedetto, 1997; Sim & Teoh, 2011) and has consistently yielded good reliability. Respondents were asked to characterize the dynamism in their organizational context for the period 2008-2011 (see Table 2). For data analysis purposes, we considered scales as continuous ranging from decreases to increase, which is in line with previous studies involving bi-polar scales (Schewe, 1976). Additionally, because previous studies have established that a firm's ownership type (public versus private), its age, sales volume, and its industry sector affected its engagement in community and environmental activities (Callan & Thomas, 2009), we included these variables as controls. Age and sales volume were assessed as continuous variables; industry sector and firm ownership type were assessed as categorical variables.

Pretesting and study sample

The questionnaire[1] was first pretested on a group of ten academic colleagues and subsequently on a group of six industry representatives. Based on their feedback, we made minor changes in wording for improved clarity. We sought data for final study in the fall of 2012 from the CEOs/owners of 3408 small manufacturing firms (firms with less than 500 employees, as stipulated in the Small Business Administration criteria) from the five selected industry sectors using a commercial database purchased from the North American Industrial Classification Association. We requested individual site-level information for firms that had multiple manufacturing sites. We collected data in the fall of 2012 following the general principles of the Tailored Design Method (Dillman, 2007). Four hundred and seventy nine valid responses were received for an adjusted response rate of 14.06%. We tested for nonresponse bias by comparing early and late respondents (first one hundred versus last one hundred responses) as recommended by Armstrong & Overton (1977) and found no significant differences in any of the constructs between the two groups ($p<0.05$). Therefore, we do not expect nonresponse bias to be a significant concern for our results or their implications.

Measurement properties of constructs

We first checked for normality by conducting skewness and kurtosis tests. All values were within an acceptable range (Muthén & Kaplan, 1985) and thus non-normality was not a concern for our data. These values, descriptive statistics and a correlation matrix for all variables are presented in Table 1. Table 2 contains all measurement items used to operationalize the different constructs and their measurement properties. We calculated coefficient alphas (α), composite reliabilities (CR), and average variance extracted (AVE) for the first-order, multi-item constructs

[1] A full version of questionnaire is available upon request.

used in the study. Values generally suggest reliable and valid measures of the individual constructs although the AVE value for change in environmental initiatives was lower than generally recommended. However, given that this is the first test of the core environmental initiatives construct, a somewhat lower AVE is permissible.

We first assessed the constructs individually, and then performed confirmatory factor analysis among all first-order factors, using the structural equation modeling software EQS (Byrne, 2006) and the maximum likelihood procedure (Hair et al., 2006). The measure of goodness of fit had satisfactory values ($\chi 2 = 255.7$; df= 71; $\chi 2$ /df= 3.18; CFI=.97; MFI=0.88; SRMR=0.04, RMSEA= .060); 95.8% of the residuals were distributed in -0.1 to 0.1 range. We assessed discriminant validity following Fornell & Lacker (1981) and found that all pairs of constructs met the minimum criteria.

(Insert Tables 1 & 2 about here)

Social desirability and common method bias

Social desirability and common method bias often affect studies involving a firm's engagement in community and environmental activities (Du, Bhattacharya, & Sen, 2007; Husted & Allen, 2007). In order to minimize potential for these biases, we followed recommendations by Podsakoff and colleagues (2003) during the questionnaire design phase. Because we asked respondents to indicate the changes that happened within their own firms during the study period rather than asking them to compare their performance with competitors, we expect less biased responses. We also flipped the direction of scales among constructs. We assessed potential for common method bias using Harman's one factor test by loading all items used in the study into an exploratory factor analysis. No single factor explained more than 28.1% of the total variance, which indicates that common method bias is not a serious concern for this study.

Analysis and results

OLS regression was used to test the hypotheses. Items for each construct were averaged and interacting variables were mean-centered to address potential multi-collinearity problems. Regression results are presented in table 3. Model 1 included control variables only; model 2 added the direct effects of changes in financial performance and contextual dynamism. In model 3, we added an interaction term to the controls and main effect models. Variance inflation factor (VIF) values were assessed for all explanatory variables included in all three models. The highest value was 1.75 for the community initiative model and 1.74 for the environmental initiative model, indicating that multi-collinearity is not a concern (Kleinbaum, Kupper, & Muller, 1988). Values in model 3 indicate both for community and environmental initiatives that neither firm-ownership type nor firm age was associated with changes in community and environmental initiatives. Sales volume was not associated with community initiatives but had a mildly positive association with changes in environmental initiatives such that the lower the sales volume, the greater the decline in environmental initiatives.

(Insert Table 3 about here)

The change in financial performance had a significant association both with the change in community initiatives and the change in environmental initiatives. Both the beta coefficient values and changes in associated R^2 values (models 3) provided *prima facie* evidence that the change in financial performance had a higher association with changes in peripheral (community) initiatives than core (environmental) initiatives. In order to formally test for the significance of this difference, a Chow test (Chow, 1960) was conducted as follows. The dataset was first duplicated and a new dummy variable INITIATIVE was created such that "1" denoted

changes in community initiatives and "0" denoted changes in environmental initiatives. The following regression equation was estimated:

Change in community/environmental initiatives= a + b1 firm ownership type + b2 firm age + b3 Ln sales + b4 industry type 1 + b5 industry type 2 + b6 industry type 3 + b7 industry type 4 + b8 industry type 5 + b9 change in financial performance + b10 contextual dynamism+ b11 change in financial performance x contextual dynamism + b12 INITIATIVE x change in financial performance+ e

The Chow test indicates a significant value for b12 ($p<.001$), suggesting that change in financial performance had a higher association with changes in peripheral (community) initiatives than core (environmental) initiatives. Therefore, H1 was supported.

Contextual dynamism had no effect on the relationship between change in financial performance and change in core (environmental) initiatives. Thus, we found no support for H2(a). In contrast, contextual dynamism, as predicted, positively moderated the relationship between change in financial performance and change in peripheral (community) initiatives (table 3), lending support for H2(b).Following the procedure described by Aiken & West (1991), we plotted the results of the moderating effect of the level of contextual dynamism on the relationship between change in financial performance and change in peripheral (community) initiatives. This plot is depicted in Figure 1and it corroborates that a declining financial performance was associated with greater decline in peripheral (community) initiatives when firms operated in dynamic as opposed to stable organizational contexts.

(Insert Figure 1 about here)

Discussion

Previous literature in corporate sustainability suggests that firms' engagement in sustainability initiatives is contingent upon their available slack, which, in turn, is a derivative of their recent financial performance (Amato & Amato, 2007; Julian & Ofori-Dankwa, 2013). The literature thus far only explains that firms commission sustainability initiatives when they have adequate resources, and is silent about the effect of a depleting resource base on firms' ongoing initiatives. We tried to tackle this issue in this paper by first arguing and then empirically demonstrating that this effect is not uniform across sustainability initiatives—initiatives that are core to a firm are more resilient to resource depletion; whereas peripheral initiatives are relatively fragile. Peripheral initiatives are even more fragile when firms operate in a more dynamic or turbulent industry context.

These findings are consistent with literature in the strategy and cost behavior fields. In strategy, for example, several studies (Mishina, Pollock, & Porac, 2004; Voss, Sirdeshmukh, & Voss, 2008) suggest that the changes in a firm's ongoing activities are not only dependent on the abundance (or lack) of a firm's current slack, but also on the extent of the slack previously absorbed in those activities. More slack-absorbing activities alter a firm's business system and exhibit stickiness, which ultimately locks-in a firm both operationally and strategically, and renders arduous the downscaling or discontinuing of such activities. To draw parallels with our study, core activities such as environmental initiatives aimed at achieving energy efficiency, waste reduction, etc. would entail investments in processes and technologies, personnel training, and installing new machinery, and therefore would have absorbed a significant amount of firm's resources, making it difficult to downscale. Our results are also consistent with Ghemawat (2009) who argues that downscaling decisions are not exclusively based on financial risk but also on competitive risk. Firms downscale only those initiatives that are least likely to expose them to

long-term competitive risk. Relating this argument to our findings, temporarily discontinuing peripheral community initiatives that small firms are often revered for in their communities does not pose a long-term competitive risk because firms would not face a legitimacy crisis. Discontinuing core initiatives, on the other hand, may put them at a disadvantage in the marketplace, where core initiatives may be important for a firm's success. Our results are also aligned with the sticky-cost perspective (Anderson, Banker, & Janakiraman, 2003; Dalla Via & Perego, 2014), according to which some absorbed costs are stickier than others, and hence there is a variation in costs that could be saved by scaling down various initiatives. We contend that costs associated with core activities are stickier, making their discontinuation or scaling down costlier relative to scaling down peripheral activities.

This study contributes to the various strands of the corporate sustainability literature by raising an important and hitherto overlooked question—how resilient firms' ongoing sustainability initiatives are to decline in financial resources. While we know that firms' sustainability behavior is "the outcome of a complex set of decisions and behavior by groups and individuals within and outside of these companies" (Lulfs & Hahn, 2014, p. 43), this study points out how changes in firms' resources may affect this behavior. This knowledge is important because most firms face resource depletion at some point in time of their life cycle, more so given the continued fragility of the global economy (Trahms, Ndofor, & Sirmon, 2013). By considering the effect of industry-level dynamism, we contribute to the literature that views firms' sustainability behavior as an outcome of their institutional and strategic context (Ashraf, Meschi, & Spencer, 2014). Notably, by integrating perspectives on firm resources and industry dynamism, the study develops a preliminary framework that considers firms' sustainability behavior as an aggregate effect of resources— that determine a firm's capacity to undertake sustainability initiatives—and

competitive context— that determines a firm's likelihood to compete in the marketplace based on sustainability-induced innovations (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013). This multi-level framework, which we refer to as the *capacity-context* framework, offers a detailed view of firms' sustainability behavior. This framework can be further developed and refined by taking a broader view of both the capacity and the context, and could be a useful contribution toward theory building efforts in corporate sustainability (Starik & Kanashiro, 2013).

Finally, this study also contributes to resource allocation literature in sustainable entrepreneurship (Desa & Basu, 2013), which suggests that firms confront resource constraints either by pursuing an optimization (through trying to acquire additional resources) or a bricolage strategy (through making do by applying combinations of available resources). While we did not examine this proposition specifically, we contend that firms would pursue both strategies in the sustainability realm—they would strive for an optimization route to continue their core initiatives but a bricolage route for peripheral initiatives.

As for the managerial and policy implications, firms should understand that while, on one hand, sustainability initiatives benefit them the most when integrated with core operations and strategy, on the other hand, the higher this integration, the stickier the initiatives are, and the higher the constraints they may face for any future alteration in the business system. Therefore, firms would be well advised to plan for contingency resources to support these initiatives during periods of financial distress, because sustainability-induced benefits can best be realized when firms' sustainability engagement is consistent over time (Wang & Choi, 2013). Policy makers and sustainability advocates may also draw an important lesson from our study: in order to ensure that firms perennially engage in sustainability initiatives, it is important that sustainability

initiatives are tied to their core functions; and that there are ways to incentivize core sustainability activities more than peripheral sustainability activities.

Conclusion

In this study we set out to examine the effects of a decline in a firm's financial resources on its ongoing sustainability initiatives. Drawing on extant literature we hypothesized and then empirically concluded that (i) a decline in firms' financial resources is associated with a higher decline in their peripheral sustainability-oriented initiatives than their core sustainability-oriented initiatives; (ii) the decline in peripheral initiatives was even greater when firms operated in a dynamic as opposed to a stable organizational context; and (iii) the decline in core initiatives was not contingent upon the level of contextual dynamism. Overall, we conclude that once commissioned, core initiatives are more robust to fluctuations in a firm's financial situation and contextual turbulence than peripheral initiatives.

A few important caveats remain. First, because of the study sample, these results pertain only to small manufacturing firms; larger firms, because of higher levels of both current and absorbed slack, may exhibit different behavior. While we expect that the core-periphery argument holds for all firms in all sectors because of the initiatives we used for operationalizing core and periphery, these results may not apply to, for example, service-sector firms because their core-peripheral mix might well be very different. The same is true for, for example, social ventures, where community initiatives would be core and therefore resilient to a resource decline. It is also important to note that neither all environmental initiatives are core, nor are all community initiatives peripheral. Future studies might consider examining the effect of change in firms' financial resources by developing a more robust matrix of core and peripheral initiatives that

consists of a broader range of environmental and community initiatives and also initiatives oriented toward customers and employees, which we omitted in this study. Similarly, broadening the geographic and industry scope of this study is important. Future studies may also include potential benefits of various initiatives as a control variable to more precisely understand the effects studied here.

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Figure 1

Effect of contextual dynamism on community initiatives

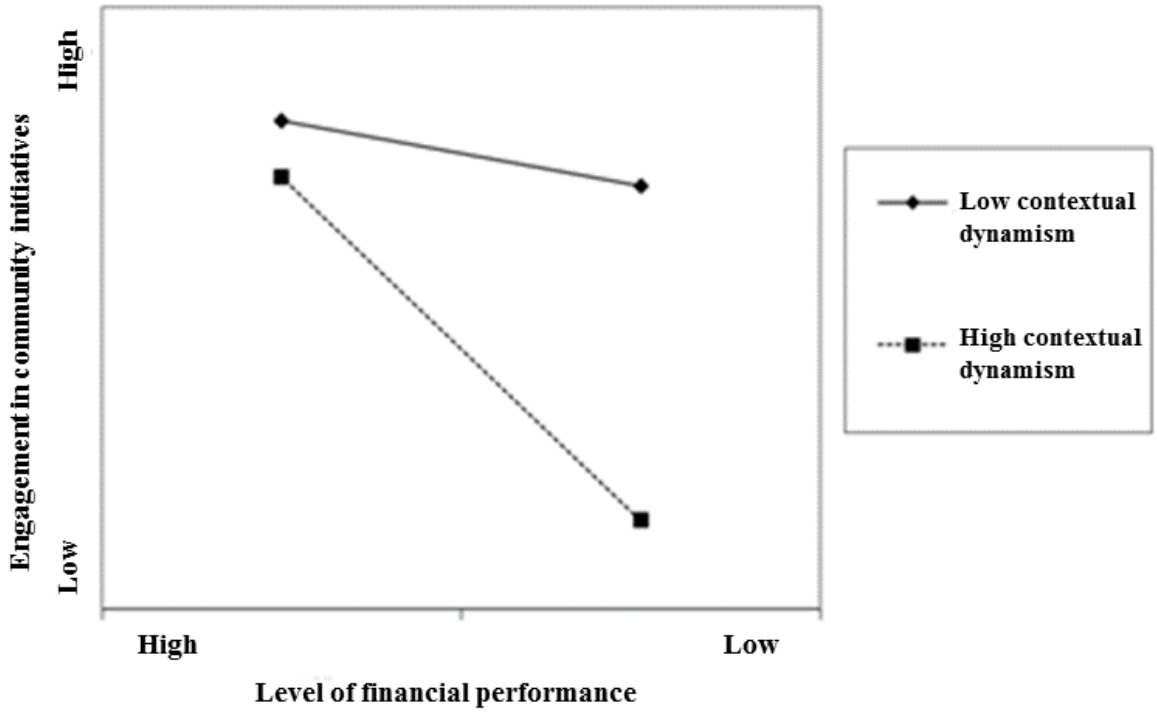

Table 1: Descriptive statistics and correlations

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Change in community initiatives	1											
2. Change in environmental initiatives	.13**	1										
3. Change in financial performance	.38**	.15**	1									
4. Contextual dynamism	-.36**	-.05	-.61*	1								
5. Firm ownership type [1]	.026	.006	.023	.006	1							
6. Firm age	.04	.03	-.03	.05	.07	1						
7. Sales	.02	.12**	.05	.02	-.06	.15**	1					
8. Food sector[1]	.11 **	-.00	.14**	-.10**	-.02	-.03	.11*	1				
9. Wood products [1]	-.25**	-.12**	-.24**	.23 **	.07	-.07	-.20**	-.23**	1			
10. Furniture[1]	.06	-.03	-.06	.09**	.06	.09	-.11*	-.12**	-.32**	1		
11. Paper[1]	.15**	.16 **	.17**	-.18**	-.08	.04	.19**	-.21**	-.55**	-.29**	1	
12. Chemicals[1]	.00	-.03	.08*	-.13**	-.03	-.05	.06	-.08	-.20	-.11	-.18	1

*Correlation significant at the 0.05 level
** Correlations significant at the 0.01 level
[1] Correlations tested using Spearman's method; all others using Pearson's method.

Table 2: Measurement scales

Variables and Items	Mean	SD	Skewness	Kurtosis	α	CR	AVE
Change in community initiatives (1=decreased, 4=no change, 7=increased) • In-kind contribution to community programs/events • Cash contribution to community programs/events • Support to non-profits	3.74	1.29	-.32	.30	.95	.98	.70
Change in environmental initiatives (1= decreased, 4=no change, 7= increased) • Efforts to improve energy efficiency • Proportion of eco-labeled products in total production output • Efforts to improve waste management system • Promotion of recycling among consumers*	4.48	.90	-.07	1.16	.67	.86	.37
Change in financial performance (1=decreased, 4=no change, 7=increased) • Return on sales • Return on investment • Rate of sales growth • Net profit • Cash flow	3.53	1.57	.21	-.88	.93	.98	.60
Contextual dynamism • Threat to survival • Investment appeal • Ability to control the environment	4.70	1.46	-.31	-.65	.87	.96	.57

α denotes Chronbach's alpha
CR is composite reliability
AVE is Average Variance Extracted
**Item was deleted from final analysis*

Table 3: Results of OLS regression

Variables	Change in Community Initiatives			Change in Environmental Initiatives		
	Model 1	*Model 2*	*Model 3*	*Model 1*	*Model 2*	*Model 3*
Control						
Firm ownership type	0.058	0.037	0.040	0.026	0.018	0.016
Firm age	0.041	0.065	0.063	0.010	0.014	0.015
Log sales	-0.028	-0.032	-0.039	0.107*	0.093	0.096*
Industry[1]						
Food products	0.213***	0.134**	0.136**	0.036	0.015	0.014
Furniture	0.165***	0.148***	0.139**	0.028	0.021	0.024
Paper	0.241***	0.131**	0.118*	0.152**	0.128*	0.134*
Chemicals	0.088	0.012	0.017	-0.007	-0.018	-0.021
Main effect						
Change in financial performance		0.244***	0.238***		0.185**	0.187**
Dynamism		-0.193***	-0.227***		0.083	0.098
Interaction effect						
Change in financial performance x dynamism			0.162***			0.072
R^2	0.072	0.212	0.237	0.038	0.059	0.064
ΔR^2		0.14	0.025		0.021	0.005
F	5.033***	13.503***	13.996***	2.591*	3.164***	3.098***
ΔF		8.47	0.493		0.573	-0.066

[1] Using wood products as the base group
*= p < 0.05
**= p< 0.01
***= p< 0.001