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**CAN ADOPTING AMBITIOUS ENVIRONMENTAL SUSTAINABILITY INITIATIVES  
LEAD TO BUSINESS FAILURES? AN ANALYTICAL FRAMEWORK**

**Dr. Joseph Amankwah-Amoah\***  
Kent Business School, University of Kent,  
Chatham, Kent ME4 4TE  
TEL: +44 (0) 1634 (88)8870  
E-mail: [J.Amankwah-Amoah@kent.ac.uk](mailto:J.Amankwah-Amoah@kent.ac.uk)

**Mr. Johnny Syllias**  
Kent Business School, University of Kent,  
Chatham, Kent ME4 4TE  
E-mail: [johnjohnny615@gmail.com](mailto:johnjohnny615@gmail.com)

**\*Corresponding author**

## Abstract

Drawing on environmental sustainability orientation and business failure literature, we examined a thought-provoking question: “Can adopting ambitious environmental sustainability initiatives lead to business failures and under what conditions is this more likely?” To address this question, we developed an analytical framework that provides new insights into how voluntary environmental initiatives affect the business environment and firm competitiveness. This paper also yields new insights on the features that emerge at adopting environmental initiatives–business failure nexus: from greening to growing, from greening to sustaining, from greening to constraining, and from greening to collapsing. Accordingly, the study accounts for the conditions under sustainability initiatives and a variety of complex contextual factors are likely to culminate in closures of small and medium-sized enterprises (SMEs). Although many top executives, entrepreneurs and managers view implementation of environmental initiatives as tantamount to superior firm performance, the paper highlighted the effects of resource constraints and vulnerabilities of SMEs and new firms during the early stage of development and therefore pursuing aggressive green initiatives could minimise their life chances. Implications for scholars and practising managers are discussed.

**Key words:** environmental sustainability; business failure; environmental initiatives; sustainability initiatives; sustainable development; strategies.

## **Introduction**

Decades of research and growing awareness of the effects of climate change have culminated in the increasing focus on environmental sustainability by firms, policymakers and governments around the world (Anderson, 2016; Pinkse & Kolk, 2009; Doppelt, 2017; Sroufe, 2018). This gradual shift reflected in governments' actions is exemplified by the adoption of the Paris Agreement within the United Nations Framework Convention on Climate Change as well as the adoption of environmental initiatives at national level. Besides advocating for environmental sustainability and sustainable economic development, environmental interest groups alongside other stakeholders, such as local communities and customers, have forced attention to be devoted towards transformative and sustainability initiatives (see Williams & Schaefer, 2013). Organisations of all sizes are increasingly facing fierce pressure from stakeholders to adopt an environmentally sustainable posture. In this era of unexpected global changes, it has been contended that “going green” via reducing the effects of firms' activities on the environment, is an essential ingredient for business survival (see Fisher & Wall, 2014). Accordingly, numerous studies have offered evidence to suggest that “it pays to be green” (Ambec & Lanoie, 2008; Hart & Ahuja, 1996). Scholars appear to have settled on the merits of environmental sustainability for firms such as minimising waste, improving energy efficiency and reducing overall environmental footprints (Witkin, 2011). Consequently, many top executives and managers have mistakenly equated implementation of environmental initiatives with superior firm performance and customer satisfaction.

Although there has been a growing body of research on different configurations and benefits of environmental sustainability (Adomako et al., 2019; Danso et al., 2019a, 2019b) and sustainability initiatives (Khanna, 2001; Khanna & Brouhle, 2009), a closer look at the literature indicates that there is a potential risk that adopting environmental initiatives could push some firms over the edge,

leading to business failure (Chassé & Boiral, 2017), yet this possibility remains underexplored. Indeed, some scholars have suggested that it might be “an illusion” to conclude that there is an automatic positive association between the voluntary pursuit of societal and environmental activities, and business success (Schaltegger, Lüdeke-Freund & Hansen, 2012). As observed by Gilley et al. (2000), the focus on environmental initiatives can impose “constraints” on firms’ behaviour and their latitude to act. In other words, “the costs of reducing environmental impact may overshadow the resulting benefits, and organizational performance may actually decline” (Gilley et al., 2000, p. 1200). These observations raise an interesting question about whether the adopting of environmental sustainability initiatives (ESIs) could be “the straw that broke the camel's back” in triggering failure of some firms, especially small and medium-sized enterprises (SMEs). The existing body of research on sustainability initiatives and business failures has thus far fallen short of expectations in terms of providing any in-depth examination of the conditions through which adoption of sustainability initiatives can tip organisations over the edge, leading to failure. Against this backdrop, the purpose of the present study is to examine under what conditions implementation of environmental sustainability initiatives leads to business failure. Accordingly, the focus is limited to the key question – “Can adopting environmental sustainability initiatives lead to business failures?” Our line of reasoning does not seek to negate the current consensus around the subject, but rather seeks to explore the environmental initiatives–business failure nexus and outline a new promising research agenda for scholars around the linkages between the two.

For at least two reasons this study makes major contributions to environmental sustainability and business failure research. First, although some scholars have indicated that environmental sustainability strategic posture is key to achieving and enriching market competitiveness (Amini & Bienstock, 2014; Bogers & Ghassim, 2019; Hart, 1995; Hart & Dowell, 2011), the linkages between the adopting environmental initiatives and business failures remain underexplored. This is very

important given that around “40% of new firms fail to survive past the first year of operations” (Amankwah-Amoah, 2016, p. 3391; Taylor, 1999). Thus, many may be unable to survival in the long term to accrue the full benefits of such resource commitments. This research extends research on business failure (Amankwah-Amoah & Wang, 2019a, 2019b; Mellahi & Wilkinson, 2004) and sustainability (Sroufe, 2018) by developing a conceptual model to outline and distinguish the different conditions under which firms’ failures are more likely following adopting ambitious ESIs. In addition, some researchers have documented the effects of sustainability initiatives (Khanna, 2001; Khanna & Brouhle, 2009), but the potential negative effects of their adoption in terms of triggering business failure have surprisingly garnered little or no research attention. Accordingly, we shed light on the features at adopting environmental initiatives–business failure nexus.

The rest of the paper unfolds along the following lines. In the subsequent section, a review of literature on environmental initiatives and business failure is presented towards developing the building blocks of the conceptual model. Following this, discussions of the features of the conceptual model and how failure might manifest in organisations are presented. The final section focuses on the contributions to theory and the practical implications.

### **Theoretical Background: Environmental Initiatives, Practices and Business Failure**

The past few years have witnessed a flurry of research activity on environmental sustainability orientation (ESO) and business failure, but this has occurred in silos. By environmental sustainability, we are referring to eco-friendly practices, actions, policies and attempts by firms aimed at decreasing harm to the environment through emissions, pollution and waste (Bragagnolo, Rizzi & Staniscia, 2014; Swaim et al., 2014), whereas ESO encompasses the general proactive strategic posture aimed at incorporating environmental concerns into the strategy of the business (Roxas & Coetzer, 2012).

Voluntary environmental initiatives (VEIs) pertain to programmes developed by “regulatory agencies, codes of conduct designed by trade associations and third parties, standards for certification of environmental management systems set by the International Standards Organization (ISO), as well as self-regulation by firms who set internal standards, goals, and policies for environmental performance improvements” (Khanna & Brouhle, 2009, p. 144). Similarly, green initiatives refers to “a set of actions undertaken by a firm with the aim of minimising the negative environmental effects associated with the entire life cycle of its products or services starting from design of the product, acquisition of raw materials and product use up to the final disposal of the product” (Li, Nginiatedema & Chen, 2017, p. 777). ESIs includes greening the supply chain, greening building and factory, generating renewable energy from solar photovoltaic (PV) and wind power, conserving water, reducing and treating waste of the business, reducing or eliminating chemicals in food farming, and recycling all company waste. At the lower end of the spectrum SMEs’ sustainability initiatives may entail becoming paperless, turning to energy-efficient lighting, banning plastic bags and encouraging all employees to take public transport (Miratelinc, 2012).

For analytical clarity, we limit the paper mainly to self-initiated and self-regulated programmes by firms, especially SMEs. Many of the new product-driven and process-driven environmental initiatives occur in tandem, such as utilising new processes to develop new products (Gilley et al., 2000). Table 1 summarises some of the different types of initiatives that organisations have employed, including process-driven and product-driven environmental initiatives. Besides the fact that product innovations have greater visibility when compared with process innovations, they often operate in tandem in enhancing the competitiveness of firms (Schilling, 2010).

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**Insert Table 1 about here**  
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The effects of green initiatives or VEIs by firms can be viewed from inward/organisational and outward/external perspectives. At organisational level, anchored in the natural-resource-based view (N-RBV) of the firm (Hart, 1995; Hart & Dowell, 2011) is the suggestion that firms that derive their strategies via adoption of ESIs/activities are more likely to outcompete rival firms (Amankwah-Amoah, Danso & Adomako, 2019; Danso et al., 2019a, 2019b). Fostering environmental sustainability entails demonstrating concern for the environment and seeking to minimise environmental waste, resource depletion, pollution and emissions. Sustainability focus has been found to have positive effects on firms' bottom line via measures such as reducing energy use, minimising water use and consumption, encouraging suppliers to reduce greenhouse gas emissions, re-using waste and streamlining production (Gronewold, 2010). Indeed, ESIs have also been found to deliver cost advantages (Carter, Kale & Grimm, 2000; Russo & Fouts, 1997) in terms of reducing production cost, product rejection rate and logistics costs (Chang & Cheng, 2019).

The central premise is that ESIs such as reducing pollution and energy use actually provide avenues for firms to shrink costs, improve efficiency and minimise future liabilities, which ultimately help to improve the financial position of the firm (Chang & Cheng, 2019; King & Lenox, 2001). By crafting strategies to combat environmental pollution and catering for the wider environment, firms develop a unique competitive weapon rooted in the capabilities and resources (Hart, 1995). Accordingly, firm profitability improves due to the cost and efficiency savings, and improvements stemming from using fewer resources and less energy ultimately enable firms to achieve long-term competitive advantage.

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At the external level, proactive environmental programmes also allow firms to dictate impending environmental standards to their advantage and also enable the establishment of some



kind of customer loyalty and the creation of constraints on potential new entrants (Khanna, 2001). In anticipation of potentially new and tougher regulations, some firms may be motivated to leap ahead by instituting VEIs (Khanna & Brouhle, 2009). There is a body of research that indicates that being seen to be “green” confirms some degree of legitimacy on firms and their activities (Bansal & Roth, 2000). Implementing environmental sustainability appeal to many stakeholders enables firms to attract environmentally conscious consumers. The public generally tends to have a favourable view of firms that pursue environmental sustainability. Through such programmes, firms are able to improve their public perception and charge higher prices for their products linked to green measures (see Khanna, 2001; Khanna & Brouhle, 2009). In addition to the cost savings stemming from sustainability policies, firms are also able to develop and enhance their reputation in the community and among other stakeholders. Indeed, sustainability-orientation commands a more positive impression of key stakeholders such as investors and Wall Street analysts (Gronewold, 2010). Figure 1 outlines a host of motives for adopting and implementing VEIs.

Generally speaking, business failure refers to a situation where, “when an entire company goes out of business ... the organization completely ceases to exist” (Marks & Vansteenkiste, 2008, p. 810). The starting point for research on business failure is the two pivotal theoretical lenses on the causes. The first is the deterministic perspective that places causes on external environmental factors such as deregulation, liberalisation and accompanying market competition (Amankwah-Amoah, 2014, 2016; Amankwah-Amoah & Adomako, 2019). In studying the causes of state-owned airlines’ failure, Amankwah-Amoah and Debrah (2010, 2014) identified factors such as liberalisation, government staffing policy and sharp decline of the national economy play a key role in displacing such firms.

One recent study unearthed that high violent and property crime in a locality leads to fall in business activities, businesses relocation and business failure/collapse (Hipp, Williams, Kim & Kim,

2019). Besides the decline in value of fixed assets such as land and buildings associated with neighbourhood crime, it also forces businesses to undertake additional security measures which can impose additional financial strains (see Hipp et al., 2019).

The second perspective, i.e. voluntaristic perspective, focuses on firm-specific characteristics such as using obsolete technologies, dysfunctional organisational routines and culture, misallocation of resources, and poor leadership (Amankwah-Amoah & Wang, 2019a; Amankwah-Amoah & Zhang, 2015a, 2015b). Indeed, leadership and managerial factors such as poor quality of decisions and mismanagement have been identified as principal causes of business failure (Amankwah-Amoah & Adomako, 2019). Building on prior business failure research, Zhang (2017) and Zhang et al. (2018) observed that, for many organisations that fail, the failure at times stems from voluminous bottlenecks that stampede innovation and creativity of the organisations. A plethora of research has emerged indicating that possession of feeble resources coupled with limited management capabilities in the wake of environmental threats, such as new sources of competition and recession, make such organisations more likely to succumb to pressure and collapse (Amankwah-Amoah, 2016). Despite mushrooming cutting-edge research on environmental stewardship and business failure, there remains silence on whether the adoption of VEIs makes some firms more likely to fail. This research study tackled this underexplored question.

### **Linking sustainability-orientation initiatives to business failure or success**

In recent years, we have witnessed two major shifts regarding the paradigm of environmental responsibility: from merely complying with environmental regulations and focusing on a few large and resource-rich organisations to focusing on all key stakeholders of the business including supply chain partners (Sarkis, 2006). Although registered SMEs account for over 60% of total employment and an estimated 40% of GDP in emerging economies (World Bank, 2019), much of the discussion

around sustainability tends to focus on large firms. Given that superior firm performance is partly predicated on being seen to be socially and environmentally responsible (Sarkis, 2006), some firms are enticed to invest in new business models and greening the supply chain to deliver on environmental sustainability. Unlike multinational, state-owned and large firms, SMEs “rarely have codified social or environmental policies” and have limited engagement with different environmental groups and other stakeholders (Williams & Schaefer, 2013, p. 174). It is argued that there is a burden associated with adopting “eco-efficiencies” measures such as investing in environmentally friendly packaging and reducing use of raw materials. There is also cost associated with the processes, structures and routines that must be instituted to become an environmentally-oriented organisation (Szaky, 2012; Sroufe, 2018). Accordingly, withstanding cost pressures associated with sustainability-orientation initiatives remains a major challenge for such firms.

It is argued that the key features that emerge at the adopting environmental initiatives–business failure nexus are: from greening to growing, from greening to sustaining, from greening to constraining, and from greening to collapsing. In the model illuminated in Figure 2, these four units of analysis or broad dynamics linking voluntary sustainability-orientation initiatives’ implementation and business failure are advanced and utilised to guide discussion below.

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### **From greening to growing**

Greening implies the commitment to decrease environmental pollution and resource utilisation of the firm to impact positively on stakeholders (Paton, 2000). A shift from greening to growing is anchored in successful implementation of environmental initiatives to develop and enhance competitiveness of the organisation, thereby providing a basis for further outward expansion. In

recent years, several developed and developing-market firms have sought to capitalise on the global move towards environmental sustainability by turning to “eco-consciousness” as a key source of new customers and sustainable market advantage (The Economist, 2011). Shaping the shift are large and highly profitable firms, dubbed “the new sustainability champions”, who are moving towards greening as a means of gaining market legitimacy, enhancing their appeal to customers, attracting potential alliance partners and reducing costs, and many firms in emerging economies have mimicked such approaches of firms in advanced economies to enhance their appeal (The Economist, 2011). There is a growing recognition that sustainability-orientation can help enhance firms’ long-term health and competitiveness (Anderson, 2016) as well as their ability to exploit hidden market opportunities. As previously noted, one of the chief merits of environmental sustainability adoption is that it provides ample opportunities for firms to grow. As one-time Unilever CEO, Paul Polman, once noted:

*“We are already finding that tackling sustainability challenges provides new opportunities for sustainable growth ... It creates preference for our brands, builds business with our retail customers, drives our innovation, grows our markets and, in many cases, generates cost savings.”* (Gronewold, 2010, p. nd)

Besides their ability to help firms capture untapped cost savings, voluntary participation programmes can also lead to the adoption of new business models, technology, energy utilisation and adoption of production processes and procedures (Howarth, Haddad & Paton, 2000) to power growth. Seeking to reduce carbon emissions from production often entails skills upgrading and training of workers to the advantage of the focal firm. By seeking to integrate sustainability with profit-seeking motives, some firms are able to enhance their reputations and legitimacy (The Economist, 2016) to outsmart rivals by expanding to new and untapped markets. Although positive and sustained long-term returns

can be accrued from investment in sustainability-orientated activities, many investors often wonder whether such investment would bear fruit over time (The Economist, 2004).

### **From greening to sustaining**

This dimension focuses on moving from “greening” to “sustaining”. Sustaining industry entails greening with social impact over long period of time (Paton, 2000, p. 329). The positive relationship between adoption of ESIs and firm performance might not hold for many new firms. For start-ups, substantial strain on the resources and expertise after formation can dramatically alter their life chances. This is reinforced by the observation by Li et al. (2017) that effects of green performance (i.e. the outcome of green initiatives on the environment) on organisational financial performance “is not immediate, and it may take more than a year for companies to see the impact” (p. 787). As observed by Cantor et al. (2012), encouraging such firms to engage environmental activities can be a major challenge.

As previously indicated, the state of the economy and the business cycle play an important role in shaping their survival chances and desire to main such initiative. Indeed, possessing technical competency and scarce resources typify successful new green entrants and SMEs. As Paton (2000, p. 329) asserted, voluntary initiatives are generally ineffective in altering firm behaviour compared with legally mandated requirements. Besides the fact that voluntary approaches tend to be poorly designed and have unclear objectives, they are also difficult to monitor for policymakers and government (Paton, 2000). It is noteworthy that environmental reporting by organisations is characterised by difficulties in many nations. The point is well illustrated by the quote below:

*“There is no recognised standard for calculating total carbon impact ... Tallying a firm’s overall environmental impact is extremely hard.”* (The Economist, 2016, p. 54)

In keeping with this trend, continuous engagement with key stakeholders is needed for firms to realise the full benefits of adopting ESIs.

### **From greening to constraining**

One of the monumental challenges facing organisations in this new era is how to achieve environmental sustainability (Sroufe, 2018) without hampering the business chances of success or putting the business on the path to failure. Given that VEIs extend beyond current legal obligations, organisations take on additional responsibilities and resource commitment in seeking to improve performance, which can inhibit their ability to compete (Paton, 2000). This is important given that competitors are not obliged to follow suit or incorporate such measures. Beside the cost associated with adopting and implementing sustainability initiatives, lack of uniformity and the voluntary nature of many initiatives often mean that some firms have the latitude to sidestep the guidelines and cut corners (The Economist, 2016). Indeed, firms participating in VEIs:

*“do not require public accountability and oversight by third parties or actual improvements in environmental performance, making it possible for firms to participate only symbolically to improve their public image, engage in free-riding behaviour, and shirk their environmental responsibilities.”* (Khanna & Brouhle, 2009, p. 145)

In the vacuum of robust certifications or oversight, some firms are able to convey such positive impressions without any major changes. Voluntary initiatives can become a mechanism through which some firms simply opt in to capture reputational value whilst concurrently avoiding making any costly modifications to their environmental behaviour (Khanna & Brouhle, 2009). By avoiding difficult and costly areas of investment, some firms are able to claim to be “green” by doing the bare minimum which sets them up for the maximum reward (The Economist, 2016). These are not enforceable and firms can ignore emission-reduction targets or renewable-energy-adoption measures

as they choose to the detriment of those who adhere to the letter. Accordingly, those who decide to push ahead weaken their competitiveness in the face of new strength of competitors, possibly stemming from financial support diverted from such initiatives. To reiterate, many SMEs are simply:

*“trying to make it through the week, which is why many people do not feel they have the luxury of devoting time and energy to reviewing their operations and turning them green.”*  
(Szaky, 2012, p. nd)

As observed by *The Economist* (2016, p. 54):

*“The hardest part is still getting businesspeople to understand that sustainability is not just a cost or a constraint.”*

Furthermore, in many nations across the globe “environmentally damaging activities are financially rewarded” and profitable, which encourages such behaviour whilst concurrently undercutting the business model and competitiveness of rival firms that opt for environmental sustainability (Howes, 2017, p. nd; Howes et al., 2017). Besides the resource constraints in advancing sustainability policies, SMEs often lack knowledge and expertise associated with sustainability management tools which curtails their ability to fully capture the benefits of ushering in sustainability initiatives compared with large firms (Hörisch, Johnson & Schaltegger, 2015). In the broad scheme of things, around 70% of the 365–445 million micro, small and medium-sized enterprises in emerging markets report problems with lack of access to financial credit, which compounds their problems (World Bank, 2019). SMEs could get financial resources tied to environmental initiatives that only deliver resources in the long term. However, failure to manage the transition from short term to long term could signal the demise of the organisation (Zhang, 2017). In that sense, there is a need for bridging resources from third parties to buffer such small organisations to ensure long-term survival and serve as an example to other aspiring entrepreneurs and SMEs.

### *From greening to collapsing*

In this dimension, the firm moves to a position where it is no longer able to absorb the cost as well as maintain operations leading to collapse. A potential source of firm failure might stem from SMEs over-estimating the potential values and gains that can be accrued in terms of sales of products and services by pursuing a green agenda. Accordingly, the failure to achieve this goal can create a vacuum in their finances, leading to exit. By lacking the necessary resources to undertake such environmental initiatives which often pay off in the long term, firms could collapse in the short term, thereby depriving the owners and founders of the opportunity to accrue the fruits of their investments. Indeed, many SMEs view the adoption of ESIs as a risky large commitment that would jeopardise their long-term survival (Chassé & Boiral, 2017). Although entrepreneurs recognise the importance of environmental responsibilities, they give a higher priority to long-term survival. Often at times the pursuits of this higher priority are incompatible with “substantial commitment” to sustainability initiatives (Chassé & Boiral, 2017, p. 332). As Witkin (2011, p. nd) observed:

*“The bottom line should be the highest priority for small businesses — or you go out of business. But if you are not eliminating waste and implementing energy-efficiency measures ... then you are just not doing good business.”*

By being able to circumvent sustainability initiatives and policies, some firms are able to deploy their resources towards enhancing their legitimacy and reputation in society to offset any potential negative effects from being less environmentally friendly. As also observed by Chassé and Boiral (2017), one of the primary rationalisations “for the unsustainability of SMEs was economic survival”.

Although SMEs tend to be more agile innovators relative to rival large firms, including multinationals (Almeida & Kogut, 1997), they tend to possess inferior, weak resources and



capability and thus constrain their ability to engage fully in environmental issues (see Williams & Schaefer, 2013). For firms to reduce the risk of transitioning from “greening” to “failing” they must develop distinctive capabilities that allow them to churn out sustainability-oriented innovations. Through such innovations, they are more likely to overcome environmental turbulence accompanying adoption of new processes and routines. Pursuing profit motives for sustainability means that firms are likely to reverse their actions or initiatives when the objective is not fulfilled in the short term. Indeed, business founders might decide to move to a new line of business or adopt a different business model.

The foregoing analysis suggests that many firms, especially SMEs, often lack the essential skill in connecting sustainability to profitability. The inability to develop such unique capability culminates in resources being invested in sustainability initiatives but the firms are unable to survive long enough to accrue the benefits. Accordingly, sustainability-oriented SMEs are likely to succeed but their success is increasingly predicted on their ability to transition from short term to long term.

### **Discussion and implications**

In this paper, we examined a key question – “Can adopting environmental sustainability initiatives lead to business failures and under what conditions is this more likely?” To answer the question, a conceptual framework was advanced which yields new insights on the features at adopting environmental initiatives–business success/failure nexus: from greening to growing, from greening to sustaining, from greening to failing/constraining and from greening to collapsing. Accordingly, the study accounted for some of the conditions under sustainability initiatives and the contextual factors likely to culminate in closures of SMEs. Given the diverse range of knowledge, resources and expertise possessed by different firms, adoption of VEIs exerts different financial strains on organisations. The paper highlighted the effects of resource strains and vulnerabilities of SMEs and

new firms during the early stage of development, and therefore pursuing aggressive green initiatives could minimise their life chances.

From a theoretical viewpoint, the study contributes to the ongoing debate that it may be more important and informative to ask “When does it pay to be green?” rather than “Does it pay to be green?” (King & Lenox, 2001, p. 105). We advance the sustainability literature (Danso et al., 2019a, 2019b) by theorising about the potential resource constraints of adopting and implementing environmental initiatives and the impact on SMEs’ survival chances. In spite of growing research on the “business case” for ESO (Schaltegger et al., 2012) and business failure (Zhang, 2017; Zhang et al., 2019), the potential link between the two remains overlooked by scholars. We address this oversight by developing a conceptual model to account for the underlying explanations and conditions leading to business failure. This study is also among the first to explicitly explore the potential linkage between the adoption of ESIs and business failures.

Besides the key contributions outlined, this study holds important practical implications for practising managers and organisations. First, given the cost associated with sustainability initiatives and their implementation, SMEs and practising managers need to collaborate with local authorities and other stakeholders to share the risk and cost of investments in environmental initiatives. This minimises the financial strains whilst simultaneously enhancing their survival chances in pursuit of a “green” strategy.

In addition, given that many businesses associate sustainable practices with high costs and economic inefficiencies (Szaky, 2012), there is a need for governments to create economic incentives to not only encourage good behaviour but also to change this perception. Given that SMEs and multinationals differ in terms of their possession of resources and expertise, it is important for public

policy makers to recognise the differences and take steps that give some leeway to small firms. Such approach would help in reducing unnecessary strains on their scarce resources and failure rate.

As many firms move to adopt ESIs, the mere adoption would cease to be a core competence or competitive weapon and become an ordinary capability. Thus, the mere adoption of ESIs would be unlikely to deliver sustainable competitive advantage and lead to incidences of business failures, unless it is embedded in the processes, routines and procedures of the organisation to deliver superior value or lower prices to consumers. In tandem with this, firms that are able to demonstrate ability to adapt and respond to new or “hot” environmental issues would likely gain greater legitimacy and reputational effects which enhances their survival chance. Accordingly, by developing unique internal routines, resources and practices, firms are better able to solidify their market competitiveness and reduce the risk of failure.

In spite of the continue adoption of environmental sustainability initiatives, there is a need to move the policy debate to centre on thresholds at which SMEs are unable to absorb additional regulatory and financial burden. Such approach would help to better inform national policies that emphasis on a more gradual implementation approach. Furthermore, there is a need to enhance the capacity of SMEs to be able to make the transition from short term to long term by equipping them to overcome financial constraints and regulatory burdens in the infancy stage where the risk of failure is much higher. It might be worthwhile for new firms to defer adoption of some costly and substantial green initiatives to allow them to thrive without hampering their survival chances.

Regarding limitations, it should be noted, however, that our study is conceptual in nature and as such the number of associations outlined require empirical validations. Accordingly, it is important for future research to utilise primary data to examine this competing challenges facing firms.

Moreover, there is a possibility that the advantages associated with embracing green fades with time. It remains a promising area to examine the nature of temporary advantages associated with adopting “green” principles. Although a host of environmental factors such as competitions and crime in the locality can cause business failure, there is a need to account for threshold at which SMEs can no longer shoulder additional burdens. Such analysis would help in understanding the point at which additional corporate initiatives and responsibility tip firms over the edge to collapse. The fact that the analysis is limited to small firms provides opportunity for future studies to focus on different types of firms such as state-owned expertise as agents of such change.

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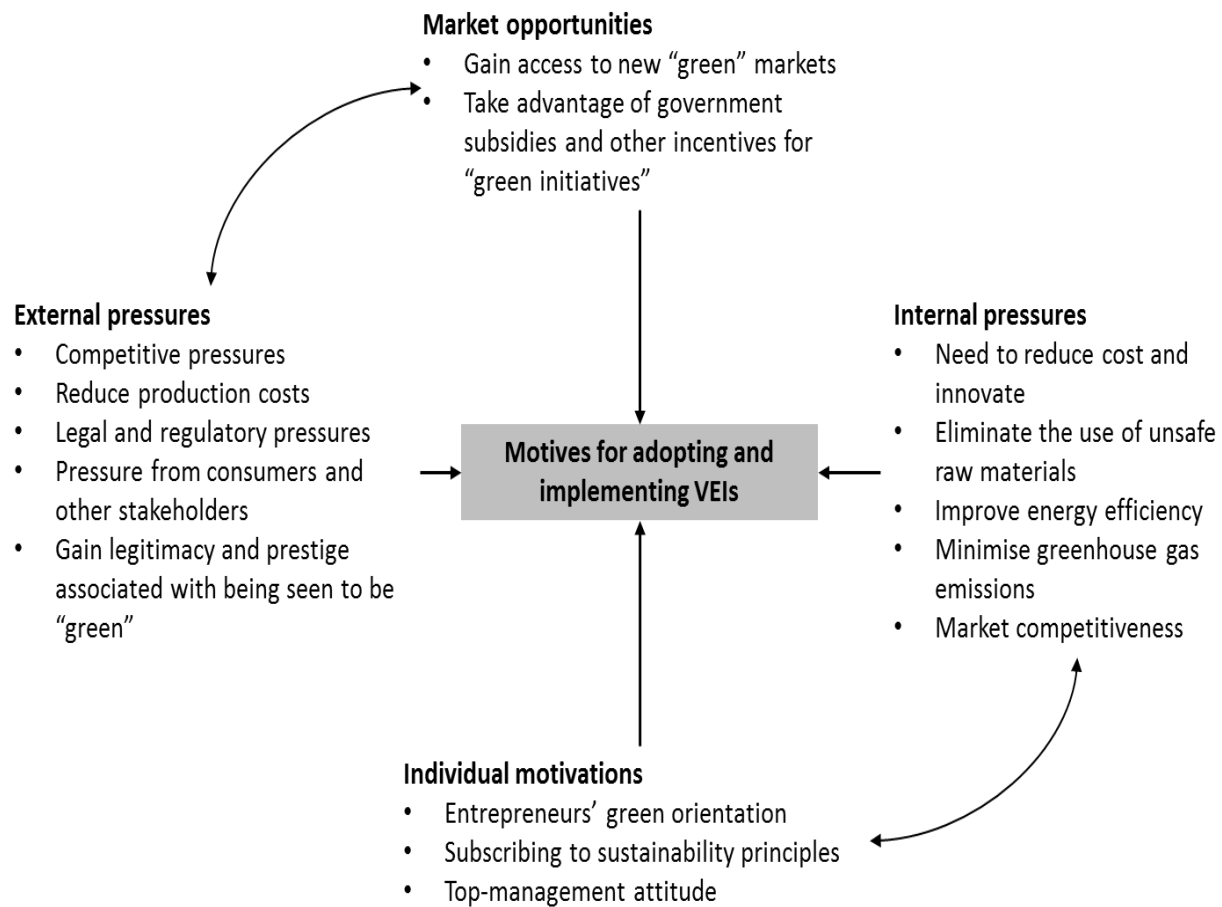
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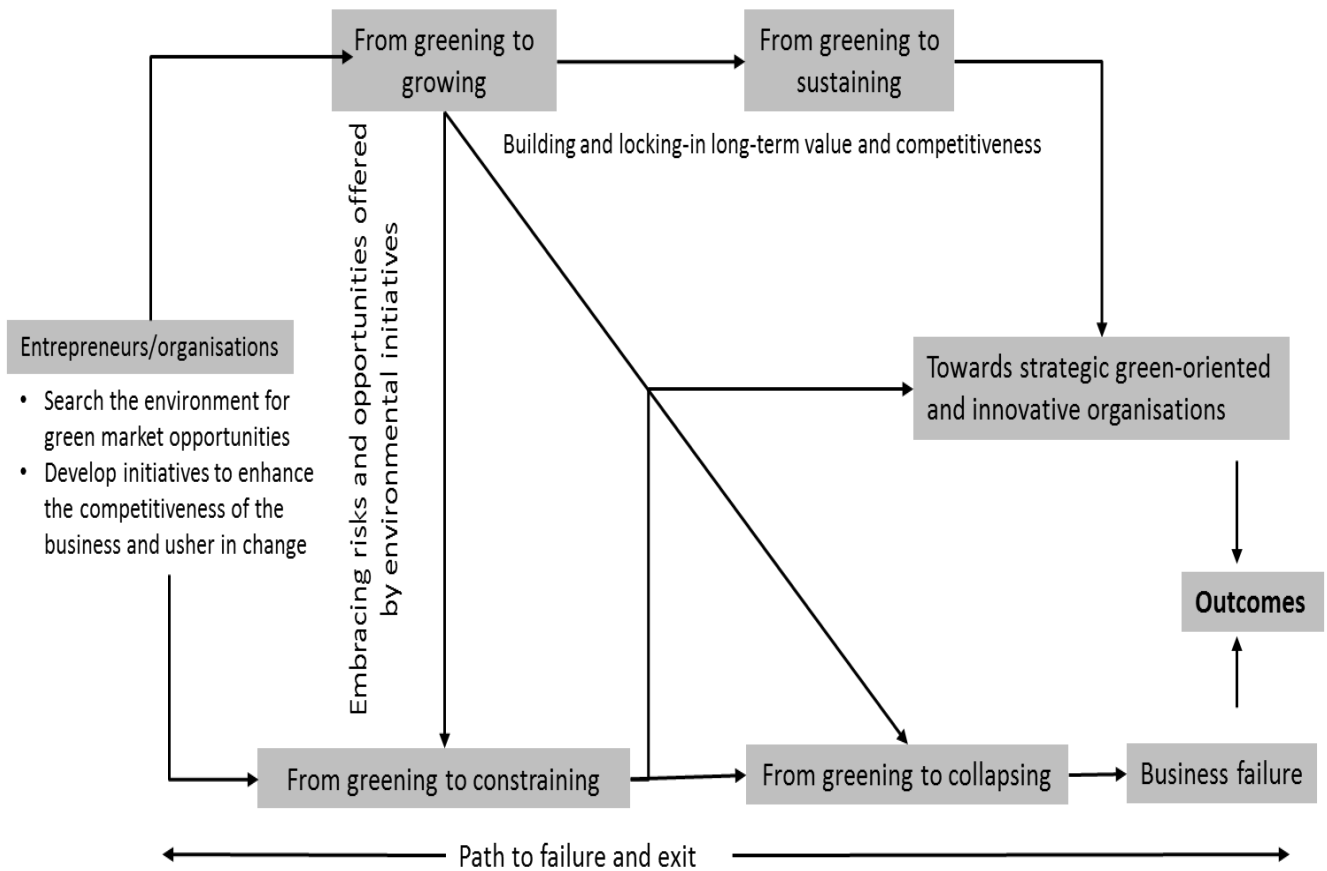
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**Figure 1: Motives for adopting and implementing VEIs**



**Figure 2: An integrated framework of environmental sustainability initiatives adoption–business failure nexus**



**Table 1: Key attributes of environmental initiatives and the differential effects**

| Type of initiatives                    |  | Key premise and examples  | Upsides   | Downsides   |
|--|--|---|---|---|
| <b>Organisation-driven initiatives</b> | Process-driven environmental initiatives   | <ul style="list-style-type: none"> <li>• It emphasises reducing the environmental footprint of the organisation via adopting measures such as recycling, waste reduction, redesigning production and delivery systems, and incorporating environmentally friendly raw materials in the production process (Gilley et al., 2000).</li> <li>• This is geared towards achieving efficiency.</li> </ul> | <ul style="list-style-type: none"> <li>• Leads to cost reductions and use of hazardous materials.</li> <li>• Jettisoning redundant processes in production helps to reduce costs and improve efficiency.</li> </ul>   | <ul style="list-style-type: none"> <li>• Offers limited information being provided to consumers about process-driven environmental initiatives.</li> <li>• Limited public visibility of steps taken by firms.</li> <li>• It can be a self-certification process.</li> </ul> |
|  | Product-driven environmental initiatives   | <ul style="list-style-type: none"> <li>• It focuses on developing environmentally friendly goods or services including recyclable products such as bags, and fuel-efficient vehicles.</li> <li>• This type of green initiatives is embodied in the products/services so they are more visible to stakeholders.</li> </ul>   | <ul style="list-style-type: none"> <li>• Reputation-enhancing effects tend to be high.</li> <li>• Media visibility helps to enhance the appeal of the firm.</li> <li>• The newness tends to appeal to customers.</li> <li>• Investors also have a favourable reaction to product-driven initiatives (Gilley et al., 2000).</li> </ul> | <ul style="list-style-type: none"> <li>• It can be more costly to implement.</li> <li>• The risk and cost of failure is much higher.</li> <li>• Investors tend to be more interested in new environmentally friendly products rather than new processes.</li> </ul>         |
| <b>Third-party initiatives</b>         | ISO 14001 for environmental management, ISO 50001 for energy management and ISO 26000 for social | <ul style="list-style-type: none"> <li>• Third-party organisation verification and certification process.</li> </ul>  | <ul style="list-style-type: none"> <li>• Standards are determined by the third party.</li> <li>• Confirm legitimacy of a trusted</li> </ul>   | <ul style="list-style-type: none"> <li>• Process of obtaining the status can be costly.</li> <li>• Organisational change might be needed to position the firm for such status.</li> </ul>   |

|   |   |  |  |   |
|---|---|--|--|---|
|   | <p>responsibility.<br/>The Green Globe certification in the travel and tourism sector.<br/>Leadership in Energy and Environmental Design – green building certification.<br/>The TripAdvisor Green Leaders' Programme for eco-friendly B&amp;Bs and hotels.</p> |  | <p>organisation.</p> <ul style="list-style-type: none"> <li>• Leads to new green product/service development.</li> </ul> |   |
| <b>Industry-led environmental initiatives</b> | <p>Often advocates above mere regulatory compliance.</p>  | <ul style="list-style-type: none"> <li>• Industry-government partnership to develop and advance initiatives.</li> <li>• Industrial environmental certification programmes.</li> <li>• Industry association programmes including Sustainable Slopes and Responsible Care fail to enrich firms' environmental performance (Khanna &amp; Brouhle, 2009).</li> </ul> | <ul style="list-style-type: none"> <li>• Enhance the standing of the industry.</li> </ul>                                | <ul style="list-style-type: none"> <li>• Difficult to enforce without legal backing or strict sanctions.</li> </ul> |

Types of environmental initiatives were synthesised from: Gilley et al., 2000; Hart, 1995; Khanna & Brouhle, 2009; National Research Council, 1997; Paton, 2000; Khanna, 2001; Schilling, 2010; <https://www.iso.org/home.html>; <http://leed.usgbc.org/leed.html>.