

## **Challenges to Strategic Management Theory posed by Climate Change**

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## Challenges to Strategic Management Theory posed by Climate Change

*The paper responds to the theme of disruptive sustainability by exploring how potential impacts of climate change could challenge the limits of dominant strategic management theory, notwithstanding the power of existing theory to help firms navigate strategic shifts. It highlights the extent to which the strategy field has evolved in a stable empirical context, despite its attention to dynamism, and explores theoretical and empirical development that may be called for in the event of pervasive new pressures and impacts.*

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## Introduction

Anthropogenic climate change is relevant to strategic management in two fundamental respects: firms face regulatory and stakeholder pressure to mitigate greenhouse gas emissions, and they can expect to have to adapt to a progressively more hostile macro environment. The focus of this paper is the implications these pressures have for the applicability of strategic management theory.

The notion of helping firms act strategically in response to evolving external pressures has been a recurrent concern since the emergence of strategic management as a scholarly field (Schendel, Ansoff & Channon, 1980). Strategic management scholarship thus contributes much knowledge, experience and tools that can help firms to respond rationally to challenges associated with climate change. The focus of this paper, however, is to consider how the strategic environment may come to breach conditions for validity or usefulness of elements of this knowledge. This could, for example, occur if firms face more radical and pervasive strategic shifts than the field has studied to date. Such a scenario is implied by IPCC projections (IPCC, 2018) and ongoing muted policy response: firms may need to operate within new resource constraints in a more crisis-prone macro strategic environment, while simultaneously responding to rising pressure to mitigate their own greenhouse emissions. Yet current signals to firms are contradictory: alarming projections decades hence, but performance data and lived experience that mostly support what critics refer to as ‘business-as-usual’ (Wright and Nyberg, (2017). Drivers such as pandemics, geopolitics or economic cycles prevail to date as more compelling strategic drivers for many firms.

From this, two alternative scenarios are implied (Wright et al., 2017). One, a steadily-evolving business-as-usual, is implied in many pragmatic actions taken by firms, regulators and individuals. Pressures exist to reduce emissions based on targets announced by governments, and to build climate resilience, yet in the short-term the targets often remain equivocal. Under this scenario, impacts are assumed to be amenable to effective mitigation via infrastructure upgrades and localised managed retreat, for example from flood zones. Another scenario, involving systemic crises that push firms’ limits, draws on the view expressed by some scholars that prospects for rapid transition to low global greenhouse emissions seem small (Wittneben et al, 2012; Jackson, 2017) and hence the trajectory is for impactful change exceeding 1.5°C (UN, 2022). In such a scenario, the ability of regions to recover following natural disasters and crises (rising sea levels, intense storms, persistent droughts, extensive wildfire) may be compromised by their pervasiveness and systemic global impact. For example, commercial insurance cover may cease to be viable (Lamond and Penning-Rowsell, 2014), and neither firms nor government fully able to cover uninsured costs. Disrupted logistics could limit recovery efforts, as potentially could loss of social order. Firms would then be presented with challenges well beyond those typically discussed in strategy and management related journals.

## Validity and limits of existing theory

Many components of strategic management and related theory position it for cogent response to disruptive scenarios, whether associated with climate change or otherwise. While dealing with climate change has been labelled a ‘wicked problem’ (Burke & Wolf, 2021) due to interconnected issues, open-ended problems, and latent conflict with stakeholders and institutions (Alford & Head, 2017), strategic management already tackles problems of this type. For example, it addresses the management of multiple stakeholders and different industry states, stages and time horizons. Strategy process and practice theory can help firms to navigate a path through intractable problems, and to re-orientate the firm strategically.

The scope of the field can also be seen to be limiting in ways that inhibit firms' responses. Its principal concerns may be portrayed as enabling firms' ongoing financial performance by retaining paying customers and maintaining wider stakeholder support or tolerance for their activities. A limitation this highlights is that it does not motivate tangible response to pressures assessed by the firm as beyond strategically salient timeframes, or as too high uncertainty to act upon. The need to respond to goods and services markets clearly is salient, and at times this may drive substantive climate mitigation behaviours. However, this effect may often be limited by discrepancy between values that market actors may espouse and those implied in their concrete choices (Norgaard, 2006). In the automotive market, for example, despite rising electric vehicle sales, many markets remain dominated by heavy SUV-style vehicles, including to individual purchasers. A similar limiting dynamic is apparent in other stakeholders to which firms might be motivated to respond, reactively or proactively (Kolk & Pinkse, 2007). For example, governments at regional, national and local level have formally declared 'climate emergencies', but seldom implemented policies that are even remotely commensurate with this language. Capital market pressure too, seems as yet equivocal in its impact, despite widespread attention to ESG criteria.

Other limitations relate to systemic effects that extend beyond individual firms. Notably, win-win possibilities such as reducing emissions per unit have been shown to be prone to the 'rebound effect' in which they influence price and availability such that demand leads to increased emissions overall (Nässén & Holmberg, 2009; Menon & Mahanty, 2012). Analysis has shown corporate initiatives aimed at reducing carbon emissions to have been ineffective across numerous sectors (Doda et al., 2016). What this points to is that responding to climate change is likely to require systemic and not just firm-level change, which in turn sits outside the scope set out above.

### **Potential theory development**

Notwithstanding its potential to contribute, aspects of strategic management theory may be stretched by higher-impact climate change scenarios. This section explores components whose validity might be challenged, and hence develops directions for new theoretical development.

#### ***Beyond symbolic environmentalism***

The focus of strategic management on firm performance in timescales relevant to the firm can be seen to lead to what can be termed symbolic environmentalism (Bowen, 2014). In this, the pervasive and boundedly-rational 'business as usual' approach pursues feel-good gains and seeks to maximise their legitimacy-based impact. Such an approach may or may not constitute strict 'greenwash' as "poor environmental performance and positive communication about environmental performance" (Delmas & Burbano, 2011 p.65). Even if it does not, it may still fall foul of the critique in the UN (2022) report by having polluting effect despite an absence of deliberate deception. For example, a firm may undertake an efficiency-enhancing investment for which the investment case does not depend on 'green' perception, but promote this nonetheless, while also reaping gains from increased throughput. The firm makes a valid claim, yet the innovation ultimately results in higher emissions. Similarly, reference to 'sustainability' is commonplace, but seldom in the strict sense of "meeting the needs of a firm's direct and indirect stakeholders without compromising its ability to meet the needs of future stakeholders as well" (Dyllick & Hockerts, 2002, p.131). Indeed, it may not be possible to determine at the level of a single firm whether the firm is operating beyond the environment's carrying capacity (Dyllick & Hockerts, 2002). Instead, the term seems to have become synonymous with almost any form of ESG (environmental, social, governance) action.

These forms of symbolic environmentalism often retain legitimacy because customers and other stakeholders tacitly buy into them. In doing so, they arguably become complicit in what can be seen as a systemic form of greenwash. As circumstances change, this dynamic may shift, leaving firms vulnerable to losing their social licence to operate – a situation of clear concern from a strategic management perspective. This implies a need to set mitigation targets that demonstrably meet societal needs, a difficult task given the difficulty of calculating optimum policy based on net economic costs and benefits (Rosen and Guenther, 2015). As a partial solution, Doda et al (2016) advocate that firms should actively report both on emissions saved and on the actions that generated the savings; and that they should present these savings in context of their total emissions and of any relevant targets.

### *Extending limits of applicability*

As Beamish & Hasse (2022) articulate, strategy research has focused on average and mainstream phenomena, eschewing the exceptional. It is also apparent that established strategic management theory derives both from mostly-stable countries and regions and from a period, say 1980-2020 based on publication of Strategic Management Journal, characterised mostly by relative stability and growth. While firms and individuals often perceive a threat of disruption, and structural competitive landscapes continue to evolve, they have done so within a pervasive paradigm of ongoing growth in goods and services consumed (Jackson, 2017). Plots of aggregate indicators including merchandise trade volumes (WTO, 2019) and indeed greenhouse emissions (UNEP, 2018), show only temporary and limited setbacks to this expectation. Even following the consumption constraints imposed by the Covid-19 pandemic, many prior growth trajectories seem set to resume. From this, one can envisage how upheavals in the strategic environment could reveal previously unconsidered boundary conditions for theories central to strategic management (Hitt et al., 2021). The ‘systemic crisis’ scenario set out above could represent such an upheaval, due to compounded magnitude, frequency, and pervasiveness of crisis events. Existing assumptions about investment risk and return, industry evolution, technological paradigm shifts, or even crisis strategy or disaster recovery might no longer meaningfully apply.

Some scholars (Jackson, 2017; Saito, 2023) have made well-cited calls for an end to growth as fundamental to a genuinely sustainable future. These arguments and associated implications for the entrenched capitalist system, if they gain traction, would have profound implications for much strategic management theory. More fundamental even than contracting markets could be a productivity frontier (Porter 2001) that contracts rather than expands. Modellers have demonstrated this possibility for the global energy system, arguing that ultimately more capital must be directed towards lower yielding energy sources (renewable and otherwise), resulting in reduced overall capacity (Dale, Krumdieck & Bodger, 2012).

### *Insights from exceptional contexts*

The call for insight into radically changed future circumstances may seem hard to answer with empirical research, yet comparable but less-studied contexts may already exist in certain unstable, under-resourced and disaster-prone settings. Strategy and management scholarship has typically not focused on these as they do not fit the dominant pattern and may seem peripheral (Beamish & Hasse, 2022). It may be germane to consider them as polar cases (Jugdev and LaFramboise, 2012) since they may highlight mechanisms that come into play under duress, including potential indirect effects of climate-induced events such as refugee crises and breakdown of social order.

Findings from extant crises are one such instance, especially where their impacts are magnified by global interdependence, as for example by the Covid-19 pandemic or the

eruption of Eyjafjallajökull volcano (Beamish & Hasse, 2022). Scholarship on historical crises provides some insight, for example how the horse manure crisis played out in the early twentieth century (Dhawan et al, 2019). Purely localised disasters such as floods or earthquakes may not be fully representative due to the ability of unaffected regions or countries to supply goods, machinery, finance, labour and expertise. Context is needed too, given cognitive biases arising from immersion in an impactful event. Yet the range of (mal)adaptations exhibited by organisations and individuals under these exceptional conditions provide a window into the phenomena that more pervasive climate-driven events might induce.

Similarly, insight may come from studying existing marginalised and resource-constrained settings. The informal sector, prevalent in many developing countries, provides an example of sufficiency and even wider competitiveness in spite of pervasive resource limitations (Darbi & Knott, 2023). Distinctive characteristics include high orientation towards inter-firm cooperation, and primacy of individual agency over institutional convention. Elsewhere, indigenous communities may provide insight into more conscious dependence on local resources and natural environment (Spiller et al., 2011). Conflict-blighted regions may also provide insight, to date more typically studied from a policy perspective or in terms of community entrepreneurial response (Dahles & Susilowati, 2015). So too might regions undergoing de-population, industries past and present in slow structural decline, and localities in ‘managed retreat’. Further insight may arise from concepts designed around constrained circumstances, such as frugal innovation (Prabhu, 2017).

## Conclusion

While strategic management theory is well positioned to help firms navigate climate change scenarios as they play out, some of its boundaries will likely be challenged. The paper develops potential research avenues in response.

## References

- Alford, J. & Head, B. (2017). Wicked and less wicked problems: a typology and a contingency framework. *Policy and Society* 36(3), 397–413. <https://doi.org/10.1080/14494035.2017.1361634>
- Beamish, P.W. & Hasse, V.C. (2022). The importance of rare events and other outliers in global strategy research. *Global Strategy Journal* 12, 697-713. DOI: 10.1002/gsj.1437
- Bowen, F. (2014). *After greenwashing: Symbolic corporate environmentalism and society*. Cambridge & NY: Cambridge University Press.
- Burke, G. T., & Wolf, C. (2021). The process affordances of strategy toolmaking when addressing wicked problems. *Journal of Management Studies* 58(2), 359-388.
- Dahles, H. & Susilowati, T.P. (2015). Business resilience in times of growth and crisis. *Annals of Tourism Research* 51, 34-50. <https://doi.org/10.1016/j.annals.2015.01.002>.
- Dale, M., Krumdieck, S. & Bodger, P. (2012). Global energy modelling — A biophysical approach (GEMBA) Part 2: Methodology. *Ecological Economics* 73, 158-167. <https://doi.org/10.1016/j.ecolecon.2011.10.028>.

- Darbi, W.P.K & Knott, P. (2023). Coopetition strategy as naturalised practice in a cluster of informal businesses. *International Small Business Journal* 41:1, 88-114. <https://doi.org/10.1177/02662426221079728>
- Delmas, M. A., & Burbano, V. C. (2011). The drivers of greenwashing. *California Management Review* 54(1), 64-87.
- Dhawan, R., Hensley, R., Padhi, A., & Tschiesner, A. (2019). Mobility's second great inflection point. *McKinsey Quarterly*, 1-11.
- Doda, B., Gennaioli, C., Gouldson, A., Grover, D. & Sullivan R. (2016). Are Corporate Carbon Management Practices Reducing Corporate Carbon Emissions? *Corporate Social Responsibility and Environmental Management* 23, 257–270.
- Dyllick, T. and Hockerts, K. (2002). Beyond the Business Case for Corporate Sustainability. *Business Strategy and the Environment* 11, 130-141.
- Hitt, M.A., Arregle, J-L., & Holmes, M.Jr. (2021). Strategic Management Theory in a Post-Pandemic and Non-Ergodic World. *Journal of Management Studies* 58(1), 259-264. DOI: 10.1111/joms.12646
- IPCC (2018). *Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.* [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press.
- Jackson (2017). *Prosperity without growth: Foundations for the economy of tomorrow*, 2<sup>nd</sup> Edition, Routledge, Abingdon.
- Jugdev K and LaFramboise LN (2012). Polar types, in *Encyclopedia of Case Study Research*. Ed. AJ Mills, G Durepos and E Wiebe. Thousand Oaks, CA: Sage, 686-687.
- Kolk, A. and Pinkse, J. (2007). Towards strategic stakeholder management? Integrating perspectives on sustainability challenges such as corporate responses to climate change, *Corporate Governance* 7(4), 370-378.
- Lamond, J. & Penning-Roswell, E. (2014). The robustness of flood insurance regimes given changing risk resulting from climate change. *Climate Risk Management* 2, 1-10.
- Menon, B. & Mahanty, B. (2012). Effects of fuel efficiency improvements in personal transportation: Case of four-wheelers in India. *International Journal of Energy Sector Management*. 6. 10.1108/17506221211259646.
- Nässén, J. & Holmberg, J. (2009). Quantifying the rebound effects of energy efficiency improvements and energy conserving behaviour in Sweden. *Energy Efficiency* 2, 221-231.
- Norgaard, K.M. (2006). “We don’t really want to know”: Environmental Justice and Socially Organized Denial of Global Warming in Norway. *Organization & Environment*, 19(3), 347-370. DOI: 10.1177/1086026606292571
- Porter, M. E. (2001). Strategy and the Internet. *Harvard Business Review* 79:3, 62–78.

- Prabhu, J. (2017). Frugal innovation: doing more with less for more. *Philosophical Transactions of the Royal Society A* 375: 20160372. <http://dx.doi.org/10.1098/rsta.2016.0372>
- Rosen, R. A. & Guenther, E. (2015). The economics of mitigating climate change: What can we know? *Technological Forecasting and Social Change* 91, 93-106.
- Saito, K. (2023). *Marx in the Anthropocene: Towards the Idea of Degrowth Communism*. Cambridge: Cambridge University Press. doi:10.1017/9781108933544
- Schendel, D., Ansoff, I. & Channon, D. (1980). Statement of editorial policy. *Strategic Management Journal* 1(1), 1-5.
- Spiller, C., Pio, E., Erakovic, L. & Henare, M. (2011). Wise Up: Creating Organizational Wisdom Through an Ethic of Kaitiakitanga. *Journal of Business Ethics* 104, 223–235. <https://doi.org/10.1007/s10551-011-0905-y>
- UN (2022). *Integrity Matters: Net Zero commitments by businesses, financial institutions, cities and regions: Report from the United Nations' high-level expert group on the net zero emissions commitments of non-state entities*. <https://www.un.org/sites/un2.un.org/files/high-level-expert-group-update7.pdf>
- UNEP (2018). *Emissions Gap Report 2018*, United Nations Environment Programme. Accessed from <https://www.unenvironment.org/resources/emissions-gap-report-2018>.
- Wittneben, B.B.F., Okereke, C., Banerjee, S.B. & Levy, D.L. (2012). Climate Change and the Emergence of New Organizational Landscapes. *Organization Studies* 33(1), 1431-1450.
- Wright, G., Meadows, M., Tapinos, S., O'Brien, F., & Pyper, N. (2017). Improving scenario methodology: theory and practice, introduction to the special issue. *Technological Forecasting and Social Change* 124, 1-5.
- Wright, C. and Nyberg, D. (2017). An inconvenient truth: How organizations translate climate change into business as usual. *Academy of Management Journal* 60(5), 1633-1661.
- WTO (2019), *World Trade Statistical Review 2019*, World Trade Organization. Accessed from <https://www.wto.org>.