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Organizational search and environmental performance: A policy guide for SMEs in emerging economies

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ABSTRACT

This study examines how manufacturing small and medium-sized enterprises (SMEs) in emerging economies use exploitative and exploratory search to improve environmental performance via new product development. Analyzing time-lagged data from Ghanaian SMEs, we find that both search strategies enhance environmental outcomes, with new product development as a key mechanism. Environmental dynamism moderates these effects—strengthening exploitative search while weakening exploratory efforts—highlighting the need for strategic alignment in volatile contexts. Our findings extend prior research by linking organizational search to environmental outcomes and by revealing how dynamic conditions shape these relationships. Policy implications point to a dual-track approach: efficiency-focused tax incentives alongside targeted grants for sustainability-driven innovation. We discuss a roadmap for policy makers to build adaptive industrial ecosystems and for SME managers to align innovation with environmental goals.

KEYWORDS

Exploitative search; exploratory search; new product development; environmental performance; environmental dynamism; policy

Introduction

This study expands on Sarfo, Fakhar Manesh, et al.'s (2024) recent work, which examines the unique challenges that small and medium-sized enterprises (SMEs) in emerging economies face in integrating sustainable practices, especially given constraints in resources and knowledge acquisition. While knowledge acquisition is vital for new product development, its specific impact on environmental performance within SMEs remains underexplored (Tyler et al., 2024). This study addresses this gap by examining how SMEs' organizational search strategies—exploitative and exploratory—simultaneously drive new product development and environmental outcomes. It also tackles the well-documented challenge SMEs face in balancing limited resources with

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competitive and sustainability demands (Salloum et al., 2019). Our findings present actionable policy insights into search strategies that enable SMEs to adapt to market dynamism, fostering sustainable growth and resilience.

Building on organizational search theory, the presented study highlights an untapped debate on how existing policies in emerging economies fail to support the development of SMEs' search capabilities (Ricci et al., 2021). Organizational search, through both exploitative (finding existing solutions) and exploratory (seeking novel ideas) approaches, enables SMEs to acquire essential knowledge, skills, and resources to enhance their new product development and environmental performance (Billinger et al., 2021). We also consider environmental dynamism—the pace of changes in regulations, consumer preferences, technology, and resources—as a boundary condition affecting how firms implement and evaluate their search strategies (Ahmed et al., 2022). Our study highlights the importance of policy interventions that balance support for incremental improvements (for example, tax incentives) with grants for high-risk innovations, allowing SMEs to maintain competitiveness while advancing sustainable practices. To further support SMEs in navigating information asymmetries, we propose avenues for real-time market intelligence and public–private partnerships (PPPs), which can encourage sustainable product development in dynamic markets.

Theoretical background and hypothesis development:

Exploitative search, new product development, and environmental performance

Exploitative search plays a key role in enhancing the environmental performance of manufacturing SMEs (Shafique et al., 2021). By drawing on prior knowledge of eco-friendly technologies, SMEs can implement incremental sustainability improvements that align with current product development initiatives (Tyler et al., 2024). For instance, SMEs with experience in developing energy-efficient processes can seamlessly integrate newer energy-saving technologies into their product offerings, enhancing environmental performance with minimal operational adjustments (Tempelaar & van de Vrande, 2021). This approach is particularly effective in time-sensitive situations, enabling SMEs to launch products quickly while incorporating sustainable features (Laureiro-Martínez et al., 2015). Exploitative search identifies areas for targeted improvements, enhancing competitive advantage and market appeal for eco-friendly products (García-Granero et al., 2014). It also fosters trust and learning, offering critical information for new product development, helping businesses address environmental challenges by making eco-conscious decisions in areas like materials, processes, and supply chains (Uotila, 2018).

H1: *Incremental knowledge application through exploitative search enhances environmental performance by facilitating sustainable improvements in new product development.*

Exploratory search drives SMEs to seek new ideas and technologies beyond their current knowledge, unlocking potential for radical innovation in sustainable new product development (Shao & Hart, 2017). It exposes SMEs to cutting-edge practices, enabling them to redesign products with improved environmental performance, addressing challenges that incremental innovations may overlook (Hilliard & Goldstein, 2019). By engaging with unfamiliar knowledge, SMEs can create breakthrough solutions that transform environmental impacts (Radicic & Pugh, 2017). Additionally, these radical innovations can open new markets for sustainable products, creating a feedback loop where market growth drives further sustainability improvements (García-Granero et al., 2014). Exploratory search thus enables SMEs to influence and shape market trends toward sustainability.

H2: *Engaging with new, unfamiliar ideas through exploratory search drives radical innovations in product development that lead to improved environmental performance.*

Environmental dynamism increases uncertainty and volatility in new product development (McKelvie et al., 2018). Insights from exploitative search help SMEs adapt to this dynamism by identifying innovative solutions, technologies, and market gaps to enhance product development strategies (Ahmed et al., 2022). Exploitative search is crucial for adapting to market changes by incorporating sustainable practices, adopting new technologies, and meeting evolving consumer expectations (Li & Liu, 2014). Rapid environmental changes demand timely market entry with relevant products. Exploitative search accelerates development by providing current insights, enabling SMEs to align strategies with dynamic market demands (Zhou et al., 2022). Proactively identifying trends and leveraging market gaps position SMEs to innovate and address shifting demands, ensuring sustained progress in new product development.

H3: *In dynamic markets, exploitative search helps SMEs adapt product development strategies to meet changing demands and incorporate sustainable practices.*

In dynamic environments, exploratory search boosts SMEs' adaptability and innovation by expanding their knowledge base and integrating diverse ideas (Zhang et al., 2020). It fosters combinatorial innovation by merging knowledge from different fields, enabling SMEs to apply new information

commercially (Yang et al., 2021). This is crucial for manufacturing SMEs combining technologies to create novel products. Exploratory search also enhances learning and adaptability, helping SMEs spot niche opportunities in turbulent markets (Kammerlander et al., 2015). Additionally, it helps SMEs allocate resources strategically by prioritizing constraints and identifying risks in radical innovations (Radicic & Pugh, 2017), reducing wasted efforts and reinforcing competitive positioning. Even in stable environments, exploratory search prevents stagnation by keeping SMEs responsive to evolving market demands, ensuring continuous innovation. This approach allows SMEs to discover new opportunities and leverage cutting-edge knowledge for new product development.

H4: *Environmental dynamism makes exploratory search essential for uncovering transformative product development opportunities that address new environmental challenges.*

Methods

Research setting and data collection

Our research focuses on Ghana, one of Africa's fastest-growing innovative economies (Global Data, 2023). Ghana offers fertile ground for both exploitative and exploratory search strategies to drive sustainable product development and boost environmental performance. Despite being a low-income country, Ghana's manufacturing sector attracts significant foreign investment, with an 8 percent growth rate (World Bank, 2019). The sector faces technological advancements, market volatility, regulatory changes, and competitive pressures (Sarfo et al., 2024).

We applied the tailored design method to administer a questionnaire to manufacturing SMEs. To mitigate common method bias (CMB; Podsakoff et al., 2012), we adopted a time-lagged data collection approach, initially gathering data for independent, mediator, and moderator variables, followed by dependent variable data 6 months later. Our sample comprised SMEs registered with the Association of Ghana Industries. We randomly selected 800 SME chief executive officers or managers, replacing unreachable firms through further random selection. Follow-ups with nonrespondents were conducted two weeks after each data collection phase. The first phase yielded 642 responses, and in the second phase, 497 responses were collected from the original 642. After excluding 54 responses with missing data, the final sample comprised 437 firms, with an average business age of 8.92 years. Respondents were 67.11 percent male and 32.89 percent female.

Measures

We employed multiple-item scales with a seven-point format. Environmental performance was measured using a dual perspective (Singh et al., 2019), focusing on (a) firms' integration of environmental concerns through life-cycle management and (b) the implementation of environmental management systems ($\alpha = 0.741$).

To measure exploitative and exploratory searches, we surveyed firms on their activities over the past 3 years, consistent with shorter business cycles in developing economies (Oura et al., 2016). Items for both types of search were adapted from Kammerlander et al. (2015), with exploitative search ($\alpha = 0.886$) capturing incremental improvements and exploratory search ($\alpha = 0.921$) focusing on novel opportunities.

New product development was measured by counting the number of new products introduced over the last 3 years, a common metric in SME innovation studies (Ridge et al., 2017). This objective measure allows consistent firm comparison, and a logarithmic transformation was applied to normalize the distribution.

Environmental dynamism, defined as unpredictability in the business environment, was measured using a four-item scale ($\alpha = 0.901$) adapted from Jansen et al. (2006). Control variables included firm age (log-transformed operational years) and gender (0 = male, 1 = female) to account for performance variations related to these factors.

Analysis and results

We used partial least squares–structural equation modeling (PLS-SEM) to examine our framework due to its accurate predictive ability of endogenous constructs, providing greater statistical power and improving the framework's explanatory strength (Hair et al., 2022).

Measurement model

All but one item exhibited outer loadings above the recommended threshold of 0.702. The item with a loading of 0.676 was evaluated for relevance in accordance with Hair et al. (2022). Removing the item had no impact on composite reliability (CR) or average variance extracted (AVE) for the exploitative search variable, confirming indicator reliability. The minimum Cronbach's alpha and CR values, 0.741 and 0.739, respectively, indicate acceptable construct reliability. All constructs have AVE values above 0.5, with a minimum of 0.562, confirming convergent validity (Hair et al., 2014). Discriminant validity was confirmed using the Fornell-Larcker criterion and the heterotrait-monotrait (HTMT) ratio. The square root of the AVE for each construct exceeds its

highest correlation with any other construct, and the maximum HTMT value of 0.862 is below the 0.9 threshold, verifying discriminant validity.

Controlling for CMB testing

To address CMB, we used a time-lagged data collection procedure and performed a full collinearity test (Kock, 2017). CMB is not a concern when all inner variance inflation factors (VIFs) are below 3.3. The highest VIF is 2.391, indicating that CMB is not an issue in this study.

Analytical model

We assessed the inner PLS-SEM model path coefficients using bootstrapping with 5,000 subsamples. The R^2 values for environmental performance (0.497, $p < .001$) and new product development (0.280, $p < .001$) exceed the 0.10 benchmark, indicating strong explanatory power (Hair et al., 2022).

The cross-validated predictive ability test method evaluated the model's out-of-sample predictive relevance (Sharma et al., 2023). The average loss from PLS-SEM predictions was compared against two benchmarks: a naive indicator average (IA) and a linear model (LM). While the PLS-SEM meets the IA benchmark, it does not surpass the more conservative LM benchmark.

The statistical findings offer strong support for the hypothesized relationships and deepen our understanding of how search strategies influence environmental outcomes in SMEs. As shown in Table 1, the significant mediation effects for both exploitative and exploratory search (H1 and H2) confirm that new product development serves as a critical mechanism linking knowledge search to environmental performance. Specifically, exploitative search not only has a direct and robust effect on environmental performance ($\beta = 0.394$, $p < .001$), it also contributes indirectly through incremental innovation ($\beta = 0.052$, $p < .001$). Similarly, exploratory search demonstrates both a direct ($\beta = 0.188$, $p < .001$) and mediated ($\beta = 0.061$, $p < .05$) impact, highlighting its role in driving more radical innovation with environmental benefits.

The moderation results (H3 and H4) in Table 1 further illustrate the boundary conditions imposed by environmental dynamism. While dynamism enhances the effect of exploitative search on new product development ($\beta = 0.105$, $p < .10$), it negatively moderates the effect of exploratory search ($\beta = -0.231$, $p < .001$). These findings suggest that, under high uncertainty, SMEs may rely more on existing knowledge (exploitative search) and face challenges in pursuing radical innovation due to increased risk and information asymmetries. Together, these results provide a nuanced view of how SMEs navigate environmental challenges through adaptive search strategies.

Table 1. Structural equation modeling results.

Endogenous construct	R^2				
Environmental performance	0.497***				
New product development	0.280***				
Structural path	**Coefficients**	*SD*	**CI 95 percent**		f^2
			LCI	**UCI**	
Exploitative search → Environmental performance	0.394***	0.036	0.323	0.464	0.133
Exploratory search → Environmental performance	0.188***	0.051	0.083	0.284	0.029
New product development → Environmental performance	0.273***	0.037	0.200	0.344	0.114
Exploitative search → New product development	0.193**	0.062	0.070	0.315	0.018
Exploratory search → New product development	0.220**	0.067	0.087	0.352	0.026
Environmental dynamism → New product development	0.210***	0.027	0.158	0.263	0.058
Firm age → Environmental performance	−0.141***	0.031	−0.203	−0.081	0.037
Gender → Environmental performance	0.040	0.060	−0.077	0.159	0.001
Environmental dynamism × Exploitative search → New product development	0.105†	0.054	−0.001	0.211	0.026
Environmental dynamism × Exploratory search → New product development	−0.231***	0.055	−0.340	−0.122	0.005
Indirect effects					
Exploitative search → New product development → Environmental performance	0.052***	0.015	0.021	0.082	
Exploratory search → New product development → Environmental performance	0.061*	0.024	0.021	0.114	
Environmental dynamism → New product development → Environmental performance	0.057***	0.010	0.038	0.078	
Environmental dynamism × Exploitative search → New product development → Environmental performance	0.028*	0.015	−0.001	0.057	
Environmental dynamism × Exploratory search → New product development → Environmental performance	−0.063***	0.017	−0.098	−0.031	

Note. †$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$; two-tailed test. *SD* = standard deviation, CI = confidence interval, LCI = lower confidence interval, UCI = upper confidence interval.

Discussion and policy implications

The findings of this study carry significant implications for policy and practice, particularly in enhancing the competitiveness and sustainability of SMEs in emerging economies. Our results underscore the necessity of equipping SMEs with both exploitative and exploratory capabilities to balance immediate operational needs with long-term innovation and environmental objectives.

To move beyond the current policy emphasis on incremental change, we recommend a dual-track policy framework (Billinger et al., 2021). This should pair tax incentives that support efficiency-driven, exploitative search with targeted grants for high-risk exploratory innovation (Wu et al., 2023). For example, Chile's "Green CORFO" initiative offers matching grants to SMEs developing environmentally sustainable innovations, effectively de-risking radical innovation while fostering environmental leadership among small firms (World Bank, 2020).

To support exploitative capabilities, policy makers should provide subsidized access to lean manufacturing training, technical assistance, and shared production facilities (Uotila, 2018). The Kenya Industrial Research and Development Institute has successfully implemented such training programs, enabling SMEs to upgrade processes and adopt eco-friendly practices incrementally. These interventions have proven effective in

driving environmental improvements without significant capital expenditure (World Bank, 2020).

In addition, governments should invest in knowledge-sharing platforms that facilitate peer-to-peer learning among SMEs (Radicic & Pugh, 2017). India's SME Sambandh portal, for instance, enables SMEs to share operational best practices and success stories, accelerating the diffusion of eco-innovations across sectors. Such platforms could be adapted to sector-specific contexts in other emerging economies, fostering communities of practice for environmental stewardship (World Bank, 2020).

For exploratory search, we recommend expanding SMEs' access to diverse and nontraditional knowledge networks (García-Granero et al., 2014). This can be supported through cross-sectoral innovation grants, sponsorships for global trade fairs, and the development of open innovation hubs (Radicic & Pugh, 2017). The Malaysian Global Innovation & Creativity Center serves as a model here, offering accelerator programs and collaborative spaces that connect SMEs with industry experts and researchers to codevelop disruptive technologies (World Bank, 2020).

Given the prevalence of information asymmetries in dynamic environments, governments should also develop real-time market intelligence systems (Sarfo et al., 2024). These platforms can offer data on evolving consumer preferences, technological trends, and regulatory shifts, helping SMEs make evidence-based innovation decisions (Laursen & Salter, 2014). The South African National Cleaner Production Center's information portal exemplifies such an initiative, providing sector-specific environmental and innovation data for SMEs.

Furthermore, PPPs should be institutionalized to link SMEs with research institutions and universities (World Bank, 2020). Vietnam's Innovation Partnership Program offers a replicable model where SMEs codevelop technologies with academic partners, sharing both risk and expertise. These PPPs can also help in piloting and scaling up sustainability innovations emerging from exploratory search efforts.

Finally, to incentivize long-term innovation aligned with sustainability goals, we propose the introduction of green product certification schemes and conditional public procurement policies. Public sector contracts could prioritize SMEs that demonstrate measurable environmental improvements (Tyler et al., 2024). For instance, Brazil's National Program for Green Public Procurement gives preference to sustainable SME suppliers, increasing market access while reinforcing eco-innovation incentives. Thus, we advocate a pragmatic, layered policy response: one that simultaneously strengthens SMEs' existing capabilities, expands their strategic search horizons, and embeds sustainability into the broader innovation ecosystem.

Conclusion

This study highlights the critical role of balanced exploitative and exploratory search strategies in driving new product development and environmental performance for SMEs. Policy makers are encouraged to rethink support beyond short-term financial aid, focusing instead on equipping SMEs with tools for sustained innovation. Future research should consider diverse industries and the scalability of these strategies to larger enterprises, expanding the potential impact of SME development policies worldwide.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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References

Ahmed, A., Bhatti, S. H., Gölgeci, I., & Arslan, A. (2022). Digital platform capability and organizational agility of emerging market manufacturing SMEs: The mediating role of intellectual capital and the moderating role of environmental dynamism. *Technological Forecasting and Social Change*, *177*, 121513. https://doi.org/10.1016/j.techfore.2022.121513

Billinger, S., Srikanth, K., Stieglitz, N., & Schumacher, T. R. (2021). Exploration and exploitation in complex search tasks: How feedback influences whether and where human agents search. *Strategic Management Journal*, *42*(2), 361–385. https://doi.org/10.1002/smj.3225

García-Granero, A., Vega-Jurado, J., & Alegre, J. (2014). Shaping the firm's external search strategy. *Innovation*, *16*(3), 417–429. https://doi.org/10.1080/14479338.2014.11081997

Global Data. (2023). *Morocco, Kenya and Ghana to be the fastest-growing major economies in Africa*. https://www.globaldata.com/morocco-kenya-ghana-fastest-growing-major-economies-africa-2021-says-globaldata/

Hair, J. F., Jr., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). SAGE.

Hair, J. F., Jr., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, *26*(2), 106–121. https://doi.org/10.1108/EBR-10-2013-0128

Hilliard, R., & Goldstein, D. (2019). Identifying and measuring dynamic capability using search routines. *Strategic Organization*, *17*(2), 210–240. https://doi.org/10.1177/1476127018755001

Jansen, J. J., Van Den Bosch, F. A., & Volberda, H. W. (2006). Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators. *Management Science*, *52*(11), 1661–1674. https://doi.org/10.1287/mnsc.1060.0576

Kammerlander, N., Burger, D., Fust, A., & Fueglistaller, U. (2015). Exploration and exploitation in established small and medium-sized enterprises: The effect of CEOs' regulatory

focus. *Journal of Business Venturing*, *30*(4), 582–602. https://doi.org/10.1016/j.jbusvent.2014.09.004

Kock, N. (2017). Common method bias: A full collinearity assessment method for PLS-SEM. In H. Latan & R. Noonan (Eds.), *Partial least squares path modeling* (pp. 245–257). Springer. https://doi.org/10.1007/978-3-319-64069-3_11

Laureiro-Martínez, D., Brusoni, S., Canessa, N., & Zollo, M. (2015). Understanding the exploration–exploitation dilemma: An fMRI study of attention control and decision-making performance. *Strategic Management Journal*, *36*(3), 319–338. https://doi.org/10.1002/smj.2221

Laursen, K., & Salter, A. J. (2014). The paradox of openness: Appropriability, external search and collaboration. *Research Policy*, *43*(5), 867–878. https://doi.org/10.1016/j.respol.2013.10.004

Li, D.-Y., & Liu, J. (2014). Dynamic capabilities, environmental dynamism, and competitive advantage: Evidence from China. *Journal of Business Research*, *67*(1), 2793–2799. https://doi.org/10.1016/j.jbusres.2012.08.007

McKelvie, A., Wiklund, J., & Brattström, A. (2018). Externally acquired or internally generated? Knowledge development and perceived environmental dynamism in new venture innovation. *Entrepreneurship Theory and Practice*, *42*(1), 24–46. https://doi.org/10.1177/1042258717747056

Oura, M. M., Zilber, S. N., & Lopes, E. L. (2016). Innovation capacity, international experience and export performance of SMEs in Brazil. *International Business Review*, *25*(4), 921–932. https://doi.org/10.1016/j.ibusrev.2015.12.002

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, *63*(1), 539–569. https://doi.org/10.1146/annurev-psych-120710-100452

Radicic, D., & Pugh, G. (2017). Performance effects of external search strategies in European small and medium-sized enterprises. *Journal of Small Business Management*, *55*(1), 76–114. https://doi.org/10.1111/jsbm.12328

Ricci, R., Battaglia, D., & Neirotti, P. (2021). External knowledge search, opportunity recognition and industry 4.0 adoption in SMEs. *International Journal of Production Economics*, *240*, 108234. https://doi.org/10.1016/j.ijpe.2021.108234

Ridge, J. W., Johnson, S., Hill, A. D., & Bolton, J. (2017). The role of top management team attention in new product introductions. *Journal of Business Research*, *70*, 17–24. https://doi.org/10.1016/j.jbusres.2016.09.002

Salloum, C., Jabbour, G., & Mercier-Suissa, C. (2019). Democracy across gender diversity and ethnicity of Middle Eastern SMEs: How does performance differ? *Journal of Small Business Management*, *57*(1), 255–267. https://doi.org/10.1111/jsbm.12336

Sarfo, C., Fakhar Manesh, M., & Caputo, A. (2024). Exploitative and exploratory search: Dynamic capabilities enhancing SME adaptation, new product development, and environmental performance. *Journal of Small Business Management*, 1–30. https://doi.org/10.1080/00472778.2024.2418026

Sarfo, C., Zhang, J. A., O'Kane, P., & O'Kane, C. (2024). Crowdfunding's impact on small business performance through exploitative and exploratory search strategies: An entrepreneurial resourcefulness perspective. *Strategic Change*, *33*(5), 335–369. https://doi.org/10.1002/jsc.2584

Shafique, I., Kalyar, M. N., & Mehwish, N. (2021). Organizational ambidexterity, green entrepreneurial orientation, and environmental performance in SMEs context: Examining the moderating role of perceived CSR. *Corporate Social Responsibility and Environmental Management*, *28*(1), 446–456. https://doi.org/10.1002/csr.2060

Shao, F., & Hart, T. A. (2017). Unbundling the effect of prior invention experience from firm size on future exploratory and exploitative search. *Innovation*, *19*(2), 227–244. https://doi.org/10.1080/14479338.2016.1276409

Sharma, P. N., Liengaard, B. D., Hair, J. F., Sarstedt, M., & Ringle, C. M. (2023). Predictive model assessment and selection in composite-based modeling using PLS-SEM: Extensions and guidelines for using CVPAT. *European Journal of Marketing*, *57*(6), 1662–1677. https://doi.org/10.1108/EJM-08-2020-0636

Singh, S. K., Chen, J., Del Giudice, M., & El-Kassar, A.-N. (2019). Environmental ethics, environmental performance, and competitive advantage: Role of environmental training. *Technological Forecasting and Social Change*, *146*, 203–211. https://doi.org/10.1016/j.techfore.2019.05.032

Tempelaar, M. P., & van de Vrande, V. (2021). Beggars can be choosers: Resource scarcity, dynamism, search activities, and their joint impact on performance. *Long Range Planning*, *54*(4), 102074. https://doi.org/10.1016/j.lrp.2021.102074

Tyler, B. B., Lahneman, B., Cerrato, D., Cruz, A. D., Beukel, K., Spielmann, N., & Minciullo, M. (2024). Environmental practice adoption in SMEs: The effects of firm proactive orientation and regulatory pressure. *Journal of Small Business Management*, *62*(5), 2211–2246. https://doi.org/10.1080/00472778.2023.2218435

Uotila, J. (2018). Exploratory and exploitative adaptation in turbulent and complex landscapes. *European Management Review*, *15*(4), 505–519. https://doi.org/10.1111/emre.12140

World Bank. (2019). *The little data book on gender*. http://hdl.handle.net/10986/31689

World Bank. (2020). *Policy challenges for emerging and developing economies*. https://documents1.worldbank.org/curated/en/249291584025972023/pdf/Policy-Challenges-for-Emerging-and-Developing-Economies-Lessons-from-the-Past-Decade.pdf

Wu, J., Murphy, P. J., Chen, J. J., & Bunn, M. D. (2023). Institutional forces and knowledge search strategies as predictors of entrepreneurial venture performance. *Journal of Small Business Management*, *61*(4), 2160–2188. https://doi.org/10.1080/00472778.2021.1890098

Yang, M., Wang, J., & Zhang, X. (2021). Boundary-spanning search and sustainable competitive advantage: The mediating roles of exploratory and exploitative innovations. *Journal of Business Research*, *127*(2021), 290–299. https://doi.org/10.1016/j.jbusres.2021.01.032

Zhang, J. A., O'Kane, C., & Chen, G. (2020). Business ties, political ties, and innovation performance in Chinese industrial firms: The role of entrepreneurial orientation and environmental dynamism. *Journal of Business Research*, *121*, 254–267. https://doi.org/10.1016/j.jbusres.2020.08.055

Zhou, W., Gu, X., & Yang, X. (2022). The impact of knowledge search balance on the generality and specificity of breakthrough innovation. *Technology Analysis & Strategic Management*, *34*(11), 1310–1325. https://doi.org/10.1080/09537325.2021.1952974