The Agile Advantage: Aligning Talent Management with Risk Mitigation for Sustainability

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Abstract

With growing environmental, social, and governance (ESG) pressures, organizational resilience has been linked to the agility of talent management practices. This study examines the macro-level relationship between talent management agility and national ESG risk exposure. Leveraging secondary country-level indices of workforce agility and ESG risk, we use the Pearson correlation and simple linear regression to assess the relationship between the two constructs. Our analyses reveal a consistent, statistically significant association: countries with higher measured talent management agility tend to exhibit lower ESG risk levels. These findings extend prior firm level research, by demonstrating that agile human and capital strategies can substantially mitigate sustainability vulnerabilities. The results point to the potential relevance of incorporating talent management agility into broader ESG and risk-related policy discussions. Limitations related to the use of secondary data are acknowledged, and future research at the company level, including qualitative approaches, is recommended to further explore the underlying mechanisms of this relationship.

Keywords: *Agile methodology, ESG, Risk Management, Sustainability, Talent Management*

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1. Introduction

In an era defined by escalating climate change, geopolitical crises, and dynamic technological advancements, the stability of organizations is challenged, business environment being characterized by unprecedented volatility. These dynamics have increased the complexity of organizational risk landscapes, challenging companies to maintain resilience and long-term sustainability. In this

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context, Environmental, Social, and Governance (ESG) considerations have become integral to strategic decision-making process, defining policies and practices aimed at mitigating systemic risks.

Despite these challenges, organizational agility, the ability to respond swiftly and effectively to change, has emerged as a critical determinant of competitiveness and resilience. Within talent management, agility plays an important role in supporting organizations to adapt to uncertainty, optimize human resources, and sustain performance under disruptive conditions. However, the relationship between talent management agility and sustainability risks, particularly within the ESG framework, remains undiscovered in academic literature.

Current academic research has been primarily directed on micro-level analyses, leaving a significant knowledge gap in macro level empirical evidence across different countries. Understanding this correlation is important for analyzing how human capital can function not merely as a resource, but as a strategic driver of sustainable development. Such data could be perceived as a base for innovative approaches to risk management and policy creation, generating organizational resilience in an era of escalating uncertainty.

In this context, this research article addresses this academic gap by analyzing the extent to which talent management agility associates with ESG related risks at the country level. Involving a quantitative methodology based on secondary data, this research aims to explore statistical relationships, examine the predictive capacity of agility in mitigating sustainability risks, and generate a strategic foundation for integrating agile talent management practices into complex sustainability and risk management frameworks. By doing this, the research paper contributes to advancing both theoretical and practical academic understanding of how agility in talent management can support sustainable organizational improvement. Based on this, the main objectives of the research are:

- Identifying the statistical relationship between talent management agility and ESG risks;
- Testing the predictive capacity of talent management agility in relation to sustainability risks;
- Providing a strategic foundation for integrating the talent management agility function into sustainability and risk management policies.

2. Literature Review

In today's constantly dynamic smart market, organizations encounter both technological and economic changes that challenge general plan-based methodologies as Waterfall, which are confronting difficulties facing unpredictability. Agile frameworks address this gap by focusing on adaptability, collaboration, and iterative development. Rather than relying on rigid plans, Agile methodology emphasizes incremental delivery and stakeholder management and engagement, generating a flexible and transparent workflow conceived for dynamic environments. The Manifesto for Agile Software Development (Agile Manifesto,

2001) offers the theoretical foundation for this mindset implementation, stating values and principles that focus on human interaction, adaptability, responsiveness to change, and continuous improvement, as presented in tables 1 and 2.

Agile values

Table 1

No.	Values	Description
1	Individuals and interactions over processes and tools	Prioritizing human-oriented problem solving approach through effective communication and collaboration over stringent processes
2	Working software over comprehensive documentation	Releasing tangible, MVP (minimum viable products) rather than focusing on rigid documentation
3	Customer collaboration over contract negotiation	Involving stakeholders throughout the entire project life cycle by creating a transparent partnership to support the evolving conditions and criteria inclusion
4	Responding to change over following a plan	Embracing flexibility, adaptability over a plan-driven approach

Source: Adapted from Agile Manifesto, 2001

Agile principles

Table 2

No.	Principle	Description
1	Customer satisfaction	Release valuable product on time and continuously to meet customers' needs.
2	Embracing change	Embrace changes and the dynamic requirements – even on a later development phase – to remain competitive and flexible.
3	Iterative delivery	Deliver functional product in short phases, enabling iterative and obtain timely feedback.
4	Collaboration	Business stakeholders and developers collaborate regularly, promoting transparent communication and shared vision.
5	Empowered teams	Develop projects around individuals which are motivated through an organizational environment which fosters trust, self-organization and creativity.
6	Face-to-face communication	Facilitate direct communication as an effective method to distribute information and address problems
7	Functional software as progress	Quantify the progress primarily by the functionality delivered, rather by new documentation.

No.	Principle	Description
8	Sustainable development	Sustainable development through manageable workload and consistently delivering quality.
9	Technical excellence	Emphasize on innovative design and technical quality.
10	Simplicity	Focus on the minimization of unnecessary tasks by keeping solutions simple and avoiding complexity.
11	Self-organizing teams	Empower teams to adopt a self-organization approach and to determine how to efficiently accomplish their tasks.
12	Regular reflection	The agile teams should be encouraged to reflect constantly on how to enhance their effectiveness and adjust their actions accordingly.

Source: Adapted from Agile Manifesto, 2001

Initially created for the software development sector, Agile principles are currently extended beyond the Information Technology (IT) area, restructuring human resource management (HRM). Talent management, generally administrative, has emerged into a strategic domain sustaining continuous professional and personal development and incremental performance management (Nigam & Chavla, 2024). Agile techniques such as short iterative cycles, constant evaluations, and cross-functional communication, change the HR frameworks from static systems into dynamic, adaptable processes (Rožeman, Tominc & Štrukelj, 2023). For example, a multinational technology company changed the performance review frequency from an annual bases with two-week sprints featuring continuous skill assessments and iterative professional development plans, generating an improved employee engagement and business requirements alignment (Moh'd et al., 2024).

The adoption of Agile principles also enables sustainability and supports ESG objectives. By embracing adaptability and transparency, Agile allows organizations to respond fast to stakeholder requirements and regulatory changes, which are mandatory for sustainable approaches. Iterative planning and collaborative cultures facilitate continuous improvement in domains like resource efficiency, employee well-being, and ethical governance: key pillars of ESG performance. Research from MIT Sloan (2025) and Oxford (n.d.) demonstrate how Agile-based adaptability improves innovation in healthcare and education, areas where sustainability outcomes are increasingly prioritized.

Prior research has highlighted the role of talent management agility in enhancing strategic resilience (Lengnick-Hall et al., 2011), supporting responsible governance practices (Gond et al., 2011), and contributing to long-term sustainable performance (Huselid & Becker, 2011). These findings provide a theoretical basis

for examining the relationship between national-level talent management agility and ESG risk.

Despite these academic and practical advancements, current literature lacks a comprehensive framework connecting Agile-based HRM practices to measurable sustainability and ESG results. While other instances illustrate potential synergies, empirical evidence and structured models remain limited. This research article addresses this knowledge gap by analyzing how Agile methodology integration in HRM can serve as a catalyst for organizational sustainability, providing a theoretical and practical workflow for future research and implementation.

A growing body of literature supports the strategic integration of human resource management into broader frameworks of organizational resilience and risk mitigation. Huselid and Becker (2011) emphasize the need for alignment between human capital practices and business strategy, arguing that performance-driven HR systems are critical to long-term value creation. In the context of risk management, Fraser and Simkins (2016) highlight the importance of enterprise-wide approaches, positioning human capital as a key enabler of effective risk identification and response. Jiang & Messersmith (2018) emphasize that agile talent management practices enhance organizational adaptability and reduce exposure to ESG risks. Similarly, Lengnick-Hall et al. (2011) highlight the importance of strategic HR agility in managing uncertainty, linking HR agility and sustainability performance. Hopkin (2018) further underlines that managing complex risks, especially those linked to ESG factors requires a robust internal culture that supports proactive, human-centered decision-making. Radu (2023) has also stated that a supportive workplace culture positively influences organizational agility. Together, these works form a solid theoretical foundation for understanding how talent management agility can serve as strategic tools for managing sustainability related risks.

Recent research shows a growing connection between agile human resource management and sustainable business practices, especially in relation to Environmental, Social, and Governance priorities. Alipour et al. (2022) and Nazari Shirkouhi et al. (2024) introduce the LARS model—Lean, Agile, Resilient, and Sustainable HRM, which helps drive innovation and improve environmental performance. On the same page, Cheng et al. (2023) offer a comprehensive overview of agile HR practices, highlighting how they boost organizational flexibility and responsiveness in unpredictable environments.

Wiyono et al. (2025) pointed to the transformative potential of ESG-focused HR strategies in aligning workforce development with long-term sustainability goals. Similarly, Eckstein and de O. Melo (2021) emphasize that when agility becomes part of an organization's culture, it can be a powerful driver of sustainable success. Altogether, these studies provide strong support for the idea that talent management agility is not just beneficial, but essential for reducing sustainability risks and building long-term resilience.

3. Materials and Methods

The aim of this paper is to examine the relationship between talent management agility and sustainability risk at national level. The research also aims to determine the extent to which talent management agility scores can predict ESG risk levels. The research has a quantitative approach and employs a correlational and explanatory method, based on secondary data obtained from recognized international sources, such as Risk Watch Initiative (2023) and INSEAD (2021). Thus, talent management agility was measured using the composite index provided by INSEAD (2021), which aggregates multiple indicators of HR adaptability, learning, and innovation capacity. The scale is reversed, with 1 representing high agility and 100 representing low agility. Sustainability risk (ESG) was measured using the country-level ESG risk scores reported by the Risk Watch Initiative (2023), which combines environmental, social, and governance risk indicators into a single standardized score. The analysis is cross-sectional, aiming to compare 25 countries. The sample consists of 25 countries, selected based on the availability of both scores.

The data were processed and analyzed using IBM SPSS Statistics, by employing correlation analysis, simple linear regression, and residual analysis. The research design, based on quantitative data, allows for a thorough analysis of the relationship between the variables. The applied methods provide a basis for testing the proposed hypotheses and for interpreting the observed patterns in a statistically rigorous manner.

Based on the research objectives and the theoretical background presented in the previous sections, we formulated the following hypotheses to guide our analysis:

H_1: Talent management agility is negatively correlated with sustainability risk (ESG) at the national level.

H_2: Talent management agility score can help explain variation in the sustainability risk (ESG).

4. Results

First, Pearson correlation analysis was conducted to assess the linear relationship between talent management agility score and sustainability risk score. Results indicate a strong positive correlation between the two variables ($r = 0.825$, $p < 0.001$, $N = 25$). Taking into consideration that talent management agility scale is created reversed (1 = high agility, 100 = low agility), this correlation implies that lower agility is associated with higher sustainability risks. This result is consistent with the first hypothesis (H1). In other words, countries with lower capacity of adaptation and innovation in the field of human resources policy will have a higher vulnerability to ESG risks.

Then, since we hypothesized a particular direction of the relationship in the second hypothesis (H2), a simple linear regression was performed to assess the

relationship between talent management agility (independent variable) and sustainability risk (dependent variable) at the country level. The results are presented in table 3.

Summary of linear regression model

Table 3

Model	R	R squared	Adjusted R squared	Standard error of the estimate
1	0.825[a]	0.680	0.666	7.27890
a. Predictors: (Constant), talent management agility				
b. Dependent Variable: sustainability risks				

Source: authors own processing using SPSS

Table 3 shows that the linear regression indicates a statistically significant relationship between talent management agility and ESG risks at the country level. Talent management explains approximately 68.0 % of the variance in sustainability risks ($R^2 = 0.68$, Adjusted $R^2 = 0.666$). Since the agility scale is reversed (1 = high agility, 100 = low agility), this indicates that countries with lower agility tend to exhibit higher ESG risks. However, since N = 25 (relatively small), the regression estimates should be interpreted cautiously. The regression ANOVA summary is presented in table 4.

Regression ANOVA Summary

Table 4

Source	Sum of squares	Degrees of freedom	Mean square	F	p-value
Regression	2590.332	1	2590.332	48.890	.000
Residual	1218.595	23	52.982		
Total	3808.927	24			
a. Dependent Variable: sustainability risks					
b. Predictors: (Constant), talent management agility					

Source: authors own processing using SPSS

The regression model is statistically significant ($F(1, 23) = 48.89$, $p < 0.001$). Talent management agility seems to be a good predictor, the less agile countries (higher scores) tending to exhibit higher ESG risk scores. The analysis of the residuals indicates that the regression model meets the assumptions of linearity and normality, with residuals falling within acceptable limits and no severe violations detected.

Our findings indicate that countries with lower measured agility (higher scores on the reversed scale) tend to exhibit higher sustainability risks. While causality cannot really be inferred for observational data, especially for such a low number of observations (N = 25), results suggest that integrating agile talent management practices may be relevant for addressing ESG challenges.

4. Discussions and Conclusions

Our paper contributes by empirically examining the relationship between national-level talent agility and sustainability risk, an area rarely addressed in HRM literature. Thus, the study contributes to the literature by extending prior firm-level research on organizational agility to the macro-level context of national ESG outcomes.

The statistical analysis supports the main hypothesis of this paper, by indicating a significant association between talent management agility and sustainability risk, with countries exhibiting lower measured agility (higher scores on the reversed scale) tending to face higher sustainability risks. As a result, from a practical perspective, organizations, both public and private, may consider approaches such as continuous improvement, decentralized decision-making, and upskilling initiatives to enhance HR adaptability in the context of sustainability risks.

The Pearson correlation coefficient revealed a strong positive relationship between the measured talent management agility scores and sustainability risk scores. Because the agility scale is reversed (1 = high agility, 100 = low agility), this actually corresponds to higher real agility being associated with lower ESG risk. These findings are in line with previous research related to agility and exposure to sustainability risks (Jiang & Messersmith, 2018; Lengnick-Hall et al., 2011).

The simple linear regression analysis indicated a statistically significant association between talent management agility and ESG risk. Given that the agility scale is reversed (1 = high agility, 100 = low agility), countries with lower measured agility tend to exhibit higher ESG risk scores. Analysis of the residuals suggests that the assumptions of linearity and normality were reasonably met, with no extreme values or influential outliers detected.

Overall, the results support the hypothesis that agility in managing talent plays an important role in mitigating sustainability risks. Consequently, a lack of agility may determine vulnerability to sustainability challenges. This highlights the importance of investing in the flexibility and adaptive capacity of human resources as a core component of ESG risk management strategies. This conclusion is also supported by the existing literature, which links agility to strategic resilience (Lengnick-Hall et al., 2011), responsible governance capacity (Gond et al., 2011) and long-term sustainable performance (Huselid & Becker, 2011).

The main limitation of this research is due to usage of limited secondary data at the country level, which may limit its direct applicability of the findings to individual organizations. Thus, the aggregated nature of the data limits the ability to explore the internal mechanisms at the organizational level. Additionally, the sample size is also relatively small (N = 25), which may affect the stability of statistical estimates. The cross-sectional design of the study also limits the ability to draw causal inferences and potential multicollinearity or omitted variables may have influenced the results. Nevertheless, the main weakness offers also a strength,

as it provides a macro-level perspective, allowing insights into how talent management agility may relate to ESG risks across countries. Future studies could explore these relationships at the industry or organizational level, in specific regional contexts or by using qualitative methods, such as interviews or case studies, to investigate the internal mechanisms through which agility helps reduce ESG risks.

References

1. Agile Manifesto (2001). *Manifesto for agile software development*. http://agilemanifesto.org/, [Accessed on 02.04.2025].
2. Alipour, N., Nazari Shirkouhi, S., Sangari, M. S. & Vandchali, H. R. (2022). Lean, agile, resilient, and green human resource management: The impact on organizational innovation and performance. *Journal of Cleaner Production*, 345, 131123.
3. Cheng, S., Mach, D. & Brosseau, C. (2023). Agile human resource management: A systematic mapping study. *European Journal of Training and Development*, 47(5/6), 453-472.
4. Eckstein, J. & de O. Melo, C. (2021). Sustainability: Delivering Agility's Promise. In C. Calero & M. Moraga (Eds.), *Software Sustainability* (pp. 215-241). Springer.
5. Gond, J.P., Igalens, J., Swaen, V. & El Akremi, A. (2011). The Human Resources Contribution to Responsible Leadership: An Exploration of the CSR–HR Interface. *Journal of Business Ethics*, 98(1), 115-132.
6. Fraser, J. R. & Simkins, B. J. (2016). The challenges of and solutions for implementing enterprise risk management. *Business horizons*, 59(6), 689-698.
7. Hopkin, P. (2018). *Fundamentals of risk management: understanding, evaluating and implementing effective risk management*. Kogan Page Publishers.
8. Huselid, M. A. & Becker, B. E. (2011). Bridging micro and macro domains: Workforce differentiation and strategic human resource management. *Journal of Management*, 37(2), 421-428.
9. Jiang, K. & Messersmith, J. G. (2018). On the shoulders of giants: A meta-review of strategic human resource management. *Human Resource Management Review*, 28(1), 1-13.
10. INSEAD, (2021). *The World's Most Talent Competitive Countries, 2021*. Available at: https://knowledge.insead.edu/career/worlds-most-talent-competitive-countries-2021, [Accessed on 02.04.2025].
11. Lengnick-Hall, C. A., Beck, T. E. & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resource management. *Human Resource Management Review*, 21(3), 243-255.
12. Moh'd, S., Gregory, P., Barroca, L. & Sharp, H. (2024). Agile human resource management: A systematic mapping study. *Agile human resource management: A systematic mapping study*, 38(4). doi: https://doi.org/10.1177/23970022231226316.
13. Nazari Shirkouhi, S., Alipour, N., Sangari, M. S. & Vandchali, H. R. (2024). The effect of Lean, Agile, Resilient and Sustainable (LARS) HRM on environmental performance. *International Journal of Quality & Reliability Management.*
14. Nigam, P. & Purvi Chavla (2024). Agile Competencies—The Way to Manage Talent in an Agile Organisation. *Flexible systems management*, pp. 287-299. doi: https://doi.org/10.1007/978-981-99-9550-9_16.

15. Oxford, U. of (n.d.). *Agile Project Management (Theory and Practice)*. [online] Oxford University Department for Continuing Education. Available at: https://www.conted.ox.ac.uk/courses/agile-project-management-theory-and-practice. Accessed on 02.04.2025.
16. Radu, C. (2023). *Fostering a positive workplace culture: Impacts on performance and agility*. In Human resource management-an update. IntechOpen.
17. Risk Watch Initiative, (2023). Global Corruption Index 2023. Available at: https://risk-indexes.com/global-corruption-index/, [Accessed on 02.04.2025].
18. Rožman, M., Tominc, P. and Štrukelj, T. (2023). Competitiveness Through Development of Strategic Talent Management and Agile Management Ecosystems. *Global Journal of Flexible Systems Management*, [online] 24(3), pp. 373-393. doi: https://doi.org/10.1007/s40171-023-00344-1.
19. Sloan, M. (2025). *Agile Collaboration Improves Health Hub Design Adoption | MIT Sloan Health Systems Initiative | MIT Sloan*. [online] MIT Sloan. Available at: https://mitsloan.mit.edu/centers-initiatives/hsi/agile-collaboration-improves-health-hub-design-adoption [Accessed on 02.04.2025].
20. Wiyono, D., Dewi, D. A., Ambiapuri, E., Parwitasari, N. A. & Hambali, D. S. (2025). Strategic ESG-Driven Human Resource Practices: Transforming Employee Management for Sustainable Organizational Growth. *arXiv preprint arXiv:2505.08201*.