

FROM FRAGILE TO AGILE: BUILDING ORGANISATIONAL RESILIENCE THROUGH AGILE TRANSFORMATION

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Abstract

Considering that agility fosters change readiness, ambidexterity, and adaptability—attributes that typically augment organisational resilience—this paper investigates agile transformation to identify its core elements that underpin organisational resilience and promote its development across the organisation. We begin by examining the fundamentals of both agile transformation and organisational resilience, followed by an in-depth analysis of their interdependencies. We conclude by discussing the implications of agile transformation as a pivotal strategy for organisations to cultivate resilience, either independently or alongside other approaches. The paper aims to elucidate organisational resilience within the context of agile transformation, recognising that resilience is not solely derived from agility but is complementary to it and can be a key objective of agilization efforts. Additionally, we propose guidelines for conducting agile transformation in a way that is most conducive to building organisational resilience.

Key words: agile transformation, organisational resilience, business agility, agile change management..

1. Introduction

Agility and resilience have become closely intertwined in today's volatile business landscapes, making the ability to quickly adapt and recover from unexpected events even more critical for navigating uncertainty and thriving in turbulent times. While some organizations are inherently agile or resilient, or both, others develop these qualities through the process of business transformation

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(Grego et al., 2024). Consequently, achieving organisational resilience through agile transformation has been identified as a promising solution for becoming both agile and resilient, which will be further explained and structured into guidelines for succeeding in such endeavors.

1.1 Organisational resilience

Organisational resilience, or simply resilience, is commonly referred to as the ability or capacity of an organisation to prepare for and effectively respond to challenges, thereby ensuring business continuity and competitive standing and increasing preparedness for future disruptions (Barasa et al., 2018; Burnard & Bhamra, 2019; Kadenic & Tambo, 2023). Miceli et al. (2021) identify two main dimensions of resilience – it is seen as a means of both protecting an organisation's current state from challenges and adapting the organisation to overcome them. Therefore, resilience manifests both absorptive and adaptive qualities, allowing for practices that differentiate between threats and opportunities and create appropriate responses (Burnard & Bhamra, 2019; Miceli et al., 2021).

While organisations may benefit from quick wins, resilience is more often viewed as a long-term commitment stemming from the ambidexterity of responding to challenges and adapting to changing circumstances. As such, resilience can be established at strategic, operational, and individual levels, enabling organisations, their components, and individuals to thrive during periods of adversity (Hillmann & Guenther, 2018; Burnard & Bhamra, 2019; Nkomo & Kalisz, 2023). This is where resilience and agility meet, creating enough room for agile transformation to be considered as a strategy for achieving organisational resilience while also becoming agile.

1.2 Agile transformation

Agile transformation can be defined as “a continuous process that organisations undertake to develop or enhance their agility capabilities and, while often viewed simply as the adoption of agile frameworks, it signifies much more – it represents a shift in how value is created, how change is managed, and how people interact” (Grebic et al., 2024). Therefore, the primary goal of agile transformation is to improve organizational agility, while also providing a range of benefits that boost performance and support sustainable growth. Consequently, organisations undergoing agile transformation typically experience enhanced flexibility, adaptability, and innovation, which, if sustained throughout and beyond the transformation process, lead to increased agility and resilience (Hutter et al., 2023; Carroll et al., 2023).

Agile transformation, especially on a large scale, permeates an organization entirely, influencing its people, processes, and practices to adopt proactive approaches to managing change and risk (Carroll et al., 2023). Given this context, dimensions of resilience can be seamlessly integrated into the scope of agile transformations, thereby enabling organizations to maintain stability while embracing change. Thus, the interconnectedness of organisational resilience and

agile transformation calls for further examination and more detailed insights into their relationship, which this research is aimed at providing.

2. Research methodology

Considering that the development of organizational resilience through agile transformation has not been extensively explored in contemporary research, we have conducted a comprehensive systematic literature review to identify relevant findings and subsequently analysed them to establish foundational definitions and the necessary steps for successfully navigating these initiatives.

2.1 Data collection

The initial search, employing key words such as “agility”, “resilience”, and “agile resilient transformation”, returned hundreds of papers across a wide range of topics; however, the systematic literature review was narrowed to focus solely on those relevant to one or more aspects of this research. Consequently, our review consists of nearly thirty papers that discuss agile transformation and the potential for achieving organisational resilience through these initiatives. The papers included in this review were published in the past eight years and appeared mostly in recognized international scientific journals, as well as in conference proceedings, book editions, and other reputable sources. It is noteworthy that we excluded from the review papers that did not mention the interplay between organisational resilience and agile transformation, except for those providing basic definitions for these phenomena.

2.2 Data analysis

The data analysis process encompassed four steps: grouping papers by their primary focus, segregating attributes of agility and resilience, performing an in-depth comparative analysis of their interdependencies, and outlining guidelines for building resilience through agile transformation. By employing this approach, we ensured that each paper underwent a structured analysis, thereby reinforcing the research goal and contributing to a better understanding of how agile transformation influences organisational resilience, and vice versa. Furthermore, this analysis maps out critical points of both concepts, establishing a perspective on the minimum requirements that should be met to facilitate the development of organisational resilience while conducting agile transformation, irrespective of transformation scale and complexity.

3. Results

Recent research by Grego et al. (2024) confirmed that organisations practicing an adaptive approach to resilience typically leverage business transformation during disruptions to adapt to new circumstances and shape appropriate responses. On the other hand, organisations that practice an absorptive

approach to resilience are usually inherently agile, flexible, and innovative, and thus tend to rely on established processes and incremental improvements rather than ad hoc solutions to respond to disruptions (Grego et al., 2024). Given this insights, adaptive resilience is more inclined to adopt agile methods in response to changing conditions, whereas absorptive resilience originates from built-in agility that has been cultivated through earlier efforts (Stachowiak & Pawłyszyn, 2021; Kadenic & Tambo, 2023). Therefore, agile transformation complements both the adaptive and absorptive dimensions of resilience, emerging as a strategy for navigating current disruptions and building capacities to handle future disruptions effectively.

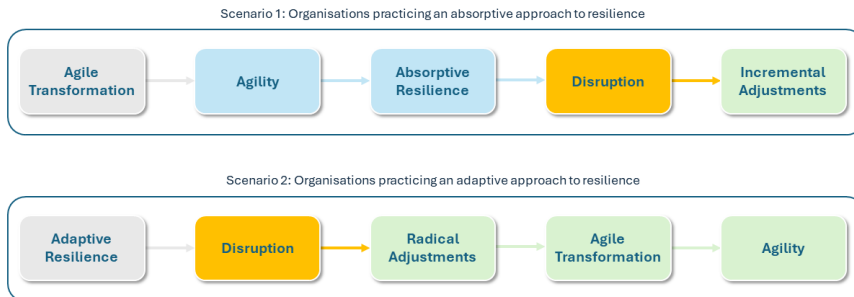


Figure 1: Resilience scenarios

As depicted in Figure 1, agile transformation fosters agility, which in turn leads to absorptive resilience and the implementation of incremental adjustments during disruptions. Accordingly, should organisations that practice adaptive resilience opt for agile transformation in response to a disruption, it could potentially lead to agility and, subsequently, absorptive resilience. Hence, if we set aside the unique circumstances of each disruption, agile transformation and agility are common elements in both scenarios, thus bringing us back to the essential need for agility to thrive in volatile and unpredictable environments (Holbeche, 2019). Furthermore, to build sustainably resilient organisations through agile transformation, regardless of its sequence in the resilience scenario, organisational learning must be integrated at all levels of the organisation (Koh et al., 2023).

The coexistence of agility and resilience has been confirmed to enhance performance by reducing costs, time-to-market, and recovery period, thereby playing a critical role in overcoming challenges and outperforming competitors (Lotfi & Saghiri, 2018; Lotfi, 2019; Cho et al., 2023). This can be partially attributed to the balance between reactive and proactive strategies inherent in agility and resilience, respectively, thus creating patterns that enable both quick responses and incremental improvements (Rahi et al., 2021; Hussain & Malik, 2022). Moreover, the convergence of agility and resilience has also been demonstrated to be effective for digital transformation (Nkomo & Kalisz, 2023), green solutions and sustainability (Sharma et al., 2020; Miceli et al., 2021), supply chain management (Calvo et al., 2020), and similar areas, as well as across various industries such as manufacturing, chemicals, tourism, healthcare, and others.

It is noteworthy that recent research indicates agile leadership has a positive impact on resilience, with direct communication, continuous collaboration, team autonomy, and shared responsibility fostering trust and empowering employees to actively engage in responding to the constantly emerging challenges (Mendrofa et al., 2024). This also introduces new challenges, particularly for established organizations burdened by high inertia and strict hierarchical structures, making the development of agile leaders a critical focus of any potential agile transformations they might pursue in the future. In addition, holistic approach to achieving resilience through agile transformation should be further developed, such as done in the field of project management (Kadenic & Tambo, 2023; Savkovic et al., 2023; Savkovic et al., 2024).

4. Discussion

Drawing from the existing body of knowledge on resilience and agile transformation, along with evidence of their coexistence and complementarity, we propose a three-step guide – *“Sensing, Reasoning, Transforming”* – to achieve resilience through agile transformation. This model is derived from the guidelines for achieving organizational agility provided by Hutter et al. (2023) and the resilient response framework by Burnard and Bhamra (2019); therefore, it is aimed at establishing practices that complement both agility and resilience.

The first step of the guide, “Sensing”, involves exploring potential threats and opportunities that could impact the organization, that is, anticipating and preparing for disruptive events that may occur in the future. The second step, “Reasoning”, entails a detailed analysis of the characteristics of disruptive events, either before or at the time of their occurrence, to develop appropriate responses that tackle challenges and propose improvements, whether incremental or radical, depending on the practice of absorptive or adaptive resilience. The third step, “Transforming”, involves the implementation of these formulated responses and the alignment of an organization with the changed circumstances, thereby enabling business continuity, reducing tension, and establishing a new normal. As such, the three-step guide – *“Sensing, Reasoning, Transforming”* – can be seamlessly integrated with agile transformation process, especially in terms of planning, risk assessment, and continuous value delivery.

5. Conclusions

Given the array of global crises that pose environmental, economic, social, health, security, and other threats, the need for resilience is more pressing than ever. Achieving resilience through agile transformation presents a challenging yet promising solution to overcome obstacles and prosper in times of disruption. Therefore, it is vital to establish practices that foster both agility and resilience within organizations. Accordingly, this research has consolidated the existing knowledge on the concepts of resilience and agile transformations, developing a model that outlines potential scenarios and delineates proactive or reactive responses in line with commonly practiced dimensions of resilience. Additionally, we have proposed a three-step guide – *“Sensing, Reasoning, Transforming”* – to

facilitate resilience through agile transformation, thereby enriching both theoretical and practical discourse on these subjects. Moreover, this research underscores the importance of understanding the interplay between resilience and agile transformation and calls for empirical studies to validate or refute the insights presented herein.

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REFERENCES

- [1] Barasa, E., Mbau, R., & Gilson, L. (2018). What Is Resilience and How Can It Be Nurtured? A Systematic Review of Empirical Literature on Organizational Resilience. *Int J Health Policy Manag.*, 7(6), 491–503. <https://doi.org/10.15171/ijhpm.2018.06>
- [2] Burnard, K., & Bhamra, R. (2011) Organisational resilience: development of a conceptual framework for organisational responses. *International Journal of Production Research*, 49(18), 5581–5599. <https://doi.org/10.1080/00207543.2011.563827>
- [3] Burnard, K.J., & Bhamra, R. (2019). Challenges for organisational resilience. *Continuity & Resilience Review*, 1(1), 17–25. <https://doi.org/10.1108/CRR-01-2019-0008>
- [4] Calvo, J., Del Olmo, J.L., & Berlanga, V. (2020). Supply chain resilience and agility: a theoretical literature review. *International Journal of Supply Chain and Operations Resilience*, 4(1), 37–69. <https://doi.org/10.1504/IJSCOR.2020.105950>
- [5] Carroll, N. Conboy, K., & Wang, X. (2023). From transformation to normalisation: An exploratory study of a large-scale agile transformation. *Journal of Information Technology*, 38(3), 267–303. <https://doi.org/10.1177/02683962231164428>
- [6] Cho, H.E., Jeong, I., Kim, E., & Cho, J. (2023). Achieving superior performance in international markets: the roles of organizational agility and absorptive capacity. *Journal of Business & Industrial Marketing*, 38(4), 736–750. <https://doi.org/10.1108/JBIM-09-2021-0425>
- [7] Grebić, B., Lalić, D.Ć., Marjanović, U., Lalić, B., Savković, M. (2024). Analyzing the Interplay of Agile and Digital Transformation in Modern Management Theory: A Systematic Literature Review. *APMS 2024, IFIP Advances in Information and Communication Technology*, 730. Springer, Cham. https://doi.org/10.1007/978-3-031-71629-4_10

- [8] Grego, M., Magnani, G., & Denicolai, S. (2024). Transform to adapt or resilient by design? How organizations can foster resilience through business model transformation. *Journal of Business Research*, 171.
<https://doi.org/10.1016/j.jbusres.2023.114359>
- [9] Hillmann, J., & Guenther, E. (2020). Organizational Resilience: A Valuable Construct for Management Research?. *International Journal of Management Reviews*, 23(1), 7–44. <https://doi.org/10.1111/ijmr.12239>
- [10] Holbeche, L. (2019). Designing sustainably agile and resilient organizations. *Systems Research and Behavioral Science*, 36(5), 668–677.
<https://doi.org/10.1002/sres.2624>
- [11] Hussain, M., & Malik, M. (2022). How do dynamic capabilities enable hotels to be agile and resilient? A mediation and moderation analysis. *International Journal of Hospitality Management*, 106.
<https://doi.org/10.1016/j.ijhm.2022.103266>
- [12] Hutter, K., Brendgens, F.-M., Gauster, S.P., Matzler, K. (2023). Scaling organizational agility: key insights from an incumbent firm's agile transformation. *Management Decision*. <https://doi.org/10.1108/MD-05-2022-0650>
- [13] Imran, F., Shahzad, K., Butt, A., & Kantola, J. (2021). Digital Transformation of Industrial Organizations: Toward an Integrated Framework. *Journal of Change Management*, 21(4), 451–479.
<https://doi.org/10.1080/14697017.2021.1929406>
- [14] Kadenic, M.D., & Tambo, T. (2023). Resilience of operating models: exploring the potential of agile project management as enabler. *International Journal of Managing Projects in Business*, 16(3), 521–542.
<https://doi.org/10.1108/IJMPB-05-2022-0122>
- [15] Koh, S. C. L., Suresh, K., Ralph, P., & Saccone, M. (2023). Quantifying organisational resilience: an integrated resource efficiency view. *International Journal of Production Research*, 62(16), 5737–5756.
<https://doi.org/10.1080/00207543.2023.2296018>
- [16] Lotfi, M., & Saghiri, S. (2018). Disentangling resilience, agility and leanness: Conceptual development and empirical analysis. *Journal of Manufacturing Technology Management*, 29(1), 168–197. <https://doi.org/10.1108/JMTM-01-2017-0014>
- [17] Lotfi, M. (2019). Which practices are lean, agile and resilient? Literature review and practitioners' perspective. *International Journal of Advanced Operations Management*, 11(1–2).
<http://dx.doi.org/10.1504/IJAOM.2019.098522>
- [18] Mendrofa, S. A., Vittorio, R., Hulu, F., Aina, Q., & Saling, S. (2024). Fostering Organizational Resilience through Agile Leadership: A Comparative Study Analysis. *Global International Journal of Innovative Research*, 2(5), 974–983.
<https://doi.org/10.59613/global.v2i5.166>

- [19] Miceli, A., Hagen, B., Riccardi, M.P., Sotti, F., Settembre-Blundo, D. (2021). Thriving, Not Just Surviving in Changing Times: How Sustainability, Agility and Digitalization Intertwine with Organizational Resilience. *Sustainability* 2021, 13, 2052. <https://doi.org/10.3390/su13042052>
- [20] Nkomo, L., & Kalisz, D. (2023). Establishing organisational resilience through developing a strategic framework for digital transformation. *Digital Transformation and Society*, 2(4), 403–426. <https://doi.org/10.1108/DTS-11-2022-0059>
- [21] Rahi, K., Bourgault, M., & Preece, C. (2021). Risk and vulnerability management, project agility and resilience: a comparative analysis. *International Journal of Information Systems and Project Management*, 9(4), art. 2. Available at: <https://aisel.aisnet.org/ijispm/vol9/iss4/2>
- [22] Rosenberg, D. Boehm, B., Wang, B., & Qi., K. (2017). Rapid, evolutionary, reliable, scalable system and software development: the resilient agile process. In *Proceedings of the 2017 International Conference on Software and System Process (ICSSP '17)*. Association for Computing Machinery, New York, NY, USA, pp. 60–69. <https://doi.org/10.1145/3084100.3084107>
- [23] Savković, M., Ćirić Lalić, D., Marjanović, U., & Vučković, T. (2024). A Glance into Holistic Project Success with Organisational Agility and Project Resilience. *Tehnički vjesnik*, 31(4), 1030–1039. <https://doi.org/10.17559/TV-20230411000523>
- [24] Savkovic, M., Ćiric Lalic, D., Vuckovic, T., Gračanin, D., & Vujicic, M. (2023) Organisational agility, project resilience, and high performance work practices: a recipe for project success. *Proceedings from the International Congress on Project Management and Engineering*, pp. 227–239, 27th International Congress on Project Management and Engineering (Donostia-San Sebastian), CIDIP 2023 <https://doi.org/10.61547/3359>
- [25] Sharma, V., Raut, R.D., Mangla, S.K., Narkhede, B.E., Luthra, S., Gokhale, R. (2020). A systematic literature review to integrate lean, agile, resilient, green and sustainable paradigms in the supply chain management. *Business Strategy and Environment*, 30(2), 1191–1212. <https://doi.org/10.1002/bse.2679>
- [26] Stachowiak, A., & Pawłyszyn, I. (2021). From Fragility through Agility to Resilience: The Role of Sustainable Improvement in Increasing Organizational Maturity. *Sustainability*, 13, 4991. <https://doi.org/10.3390/su13094991>
- [27] Taesch, L., Rochefolle, C., Touirat, M., Mortreux, D., Boulinguez, S., Polombo, D., & Manoukian, P. (2020). Agile Transformation as an Adaptive System. *Preprints 2020*. <https://doi.org/10.20944/preprints202011.0160.v2>

