



Agile Leadership: Making Schools More Adaptive and Responsive

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Abstract

The dynamic nature of education requires school leaders to adopt more flexible and adaptive management strategies. Agile Leadership has emerged as a promising approach that emphasizes flexibility, collaboration, and rapid responsiveness to change. This study explores the implementation of Agile Leadership in SMAN 1 Pamukan Utara, a "Sekolah Penggerak" in South Kalimantan, through a qualitative case study. Data were collected via in-depth interviews, direct observations, and document analysis, then analyzed using Miles and Huberman's qualitative data analysis model, which includes data condensation, data display, and conclusion drawing/verification. The analysis process was supported by NVivo software to facilitate coding, categorization, and pattern identification. Findings reveal that Agile Leadership enhances decision-making flexibility, strengthens stakeholder collaboration, and fosters curriculum innovation. The principal plays a crucial role in facilitating an adaptive culture, empowering teachers, and promoting continuous learning. Moreover, Agile principles, such as iterative planning and digital technology integration, contribute to increased efficiency in school management. The study highlights the importance of professional development for school leaders and policy support from educational stakeholders to ensure successful Agile Leadership implementation. The findings provide practical insights for school leaders in navigating educational transformations. Future research should examine Agile Leadership in various school contexts to further validate its impact.

1. Introduction

In the ever-changing world of education, the role of leadership becomes increasingly crucial in ensuring that schools are able to adapt to the dynamics at hand. Changes in education policy, technological developments, and the increasingly complex needs of learners require flexible and innovative leadership (Bohari et al., 2024; Harris & Jones, 2019; Nebieridze, 2023). One of the approaches that is gaining more attention in educational management is Agile Leadership, which focuses on flexibility, collaboration, and the ability to quickly adapt to changes (Breakspear, Peterson, Alfadala, & Khair, 2017; López-Alcarria, Olivares-Vicente, & Poza-Vilches, 2019). By applying this approach, principals can more effectively respond to emerging challenges and make timely decisions to ensure the sustainability and improvement of education quality (Gren & Ralph, 2022; Laval et al., 2021). Therefore, it is important for school leaders to understand and adopt agile leadership principles to create a more dynamic and adaptive learning environment.

However, in practice, the implementation of agile leadership still faces various structural and cultural barriers in school organizations. Many educational institutions still employ hierarchical and bureaucratic management systems, which often inhibit rapid response to change (Greany, 2022; Joo & Kim, 2022; Norqvist & Årlestig, 2021). Although transformational and distributive leadership have been applied in some educational contexts, these approaches have not been able to fully address the challenges of uncertainty in the evolving school environment (Hameiri & Nir, 2016; Kwan, 2020). Therefore, further exploration of Agile Leadership implementation in educational institutions is a necessity so that schools can be better prepared to face the challenges of the times and ensure the sustainability of innovation in educational management (Francis, 2022; Nissim & Simon, 2023). Thus, understanding how to overcome bureaucratic barriers in the education system is an important step in supporting the implementation of more adaptive leadership.

Although the concept of agile leadership has been widely applied in the business and technology sectors, studies on its implementation in the field of education are still relatively limited. Various studies show that agile methods are widely used in business and technology industries to improve efficiency as well as innovation, so the Education system also needs to adapt to this trend to ensure cutting-edge curriculum and managerial strategies (Sharp & Lang, 2018). Additionally, achieving organizational resilience can be facilitated through the implementation of agile leadership, which plays a crucial role in sustaining the organization during periods of crisis (Dwiridotjahjono et al., 2024). Pandemic COVID-19 and digital transformation have accelerated the

need for organizations, including schools, to adopt this approach to enhance innovation efficiency, employee performance, and team effectiveness (Porkodi, 2024). Then, the agile movement has significantly influenced software design, project management, and business operations, potentially reshaping governance, public management, and administration (Mergel, Ganapati, & Whitford, 2021). This research gap indicates that there is still a need to understand how Agile principles can be applied in school leadership. Therefore, this research aims to analyze the strategies of school principals in implementing Agile Leadership and its impact on school management effectiveness, thereby providing deeper insights for leadership development in the field of education.

One example of agile leadership implementation in education can be found at SMAN 1 Pamukan Utara, a “Sekolah Penggerak” Batch 1 in South Kalimantan Province. This school is an institution that is quick to respond to policy changes, especially in the implementation of the “Merdeka” Curriculum. As a school with the designation of a “Sekolah Penggerak”, SMAN 1 Pamukan Utara is required to adopt the curriculum change from the K13 National Curriculum to the “Merdeka” Curriculum. In this transition process, agile leadership is implemented to ensure that the changes are carried out effectively.

This article will present the results of a qualitative case study research at SMAN 1 Pamukan Utara, which has implemented Agile Leadership principles in its management process. The findings of this research are expected to provide insights for school leaders and stakeholders in enhancing the responsiveness and adaptability to policy changes and evolving educational needs. This research not only contributes to the development of leadership theory in education, but also provides practical recommendations for schools in facing managerial challenges in a dynamic era.

2. Methods

This research uses a qualitative approach with a case study method to deeply understand the implementation of Agile Leadership in a school context. This research was conducted at SMAN 1 Pamukan Utara, a school in South Kalimantan Province that has adopted Agile principles in its management and decision-making. The case study method was chosen because it allows for more comprehensive exploration (Heale & Twycross, 2018) of the leadership dynamics occurring in the school environment. Data were collected through in-depth interviews with 10 informants consisting of: the principal, vice principals, teachers, and educational staffs, direct observation of leadership practices, and documents analysis related to school policies. The data source triangulation technique was used to ensure the validity of the research findings. Interviews were conducted in a semi-structured manner to explore informants' experiences and perspectives related to the implementation of Agile Leadership. The data obtained were analyzed using the Miles and Huberman qualitative data analysis model: data condensation, display, validation, and conclusion (Miles, Huberman, & Saldaña, 2014), assisted by NVivo software.

3. Result and Discussion

The results show that the implementation of Agile Leadership in schools involves three main aspects: flexibility in decision-making, increased collaboration among stakeholders, and innovation in curriculum management and learning processes. In the context of leadership, the principal acts as a facilitator who encourages a culture of innovation and experimentation, allowing teachers and staff to feel more empowered to innovate in their teaching strategies. As shown in figure 1.



Figure 1. Principal's Strategies in Implementing Agile Leadership in School (Source: Author's creation)

Agile management establishes a series of structures and processes to help teams respond to changes (Mergel et al., 2021; Renault & Tarakci, 2023), school principals play a crucial role in determining school performance and driving change (Dare & Saleem, 2022). In addition, contemporary school leadership is crucial for effectiveness, change, and strategic innovation, involving a strong vision, goals, and implementation plans for monitoring and review (Chatzipanagiotou & Katsarou, 2023). Agile management strategies, such as continuous resource monitoring, flexible workflows, client participation, facilitated communication, are effective in managing change (Arefazar, Nazari, Hafezi, & Maghool, 2019). Agile leadership enhances the adaptability and responsiveness of schools through flexibility, collaboration, and rapid adaptation to change and adjusting strategies to evolving situations, promoting teamwork, empowering teams, and continuous learning (Ng, Maqsood, Khalfan, & Rahmani, 2023; Saleh, Abbas, Latif, & Khalil, 2024; Stoddard, Gillis, & Cohn, 2019). To develop strategic management with an agile approach, schools should focus on providing leadership management, developing school plans and policies, and ensuring effective communication between the school and the community. School leaders play a crucial role in school-based development by fostering trust, fostering collegium-rooted processes, and balancing internal and external accountability (Postholm, 2019).

Agile leadership helps eliminate communication biases and allows schools to make quick decisions in uncertain situations (Varga-Atkins, Sharpe, Bennett, Alexander, & Littlejohn, 2021). Research indicates that Scrum, an agile methodology adapted from software development, can effectively enhance educational leadership by promoting transparency, inspection, and adaptation in a volatile, uncertain, complex, and ambiguous (VUCA) environment (Kisno et al., 2022). School principals with high agile leadership characteristics and organizational justice positively impact teachers' job satisfaction, with organizational justice playing a key role in this relationship (Özgenel, Yazıcı, & Asmaz, 2022).

An agile leader should encourage collaboration and open communication, empower teams by trusting them to make decisions, and prioritize continuous learning. Agile leadership positively impacts organizational outcomes, especially operational outcomes, with stronger effects on trust, performance, and innovation management (Anggadwita, Suganda, Azis, & Bagus Profityo, 2021). Agile leadership, with diverse competencies and direct communication, can effectively maintain the teaching process and ensure the sustainability of educational institution functions (Nissim & Simon, 2023). Agile Education effectively fosters key sustainable development competencies, creates learning environments that support responsible citizenship and enhances performance, satisfaction and motivation for both teachers and students (López-Alcarria et al., 2019).

The implementation of Agile Management by the Principal of SMAN 1 Pamukan Utara has become the main strategy to enhance efficiency and responsiveness in school management. The first strategy, flexibility in decision-making is realized through a leadership model that is not rigid and empowers teachers more in making decisions relevant to classroom and student conditions. Research suggests that combining flexibility and management can improve performance by adapting to changing circumstances and engaging stakeholders (Spiegler, Heinecke, & Wagner, 2021). This method emphasizes flexibility, teamwork, and responsiveness to change, which are essential in the modern era. Cognitive flexibility, the ability to match cognitive processing to the type of problem, enables decision makers to achieve higher decision-making performance in adapting to change and overcoming inertia in rapidly changing organizations (Soyata et al., 2019). In addition, the principal applies the sprint planning mechanism in school management meetings, which allows for quick and iterative identification of problems and solutions (Todd et al., 2017). This has proven to enhance the effectiveness of school management in dealing with sudden policy changes (John, 2018). The principal divided the management team into several small units that focus on specific tasks, with clear and measurable goals (Benoliel, 2021; Chen-Levi, Schechter, & Buskila, 2021; Nesterkin, Porterfield, & Li, 2016). Each unit maintains effective communication to ensure all parties are involved in the decision-making process (Pirzadeh, Lingard, & Blismas, 2020).

Second, increased collaboration is also a key factor in the success of Agile Leadership. The principal of SMAN 1 Pamukan Utara actively involves teachers and school staff in discussions and decision-making, thereby creating a more dynamic and participatory work environment. Collaboration between teachers, staff, and students is highly emphasized through regular meetings and discussion forums, so that all parties can participate in decision-making and provide constructive feedback (Bond-Barnard, Fletcher, & Steyn, 2018; Tam, Moura, Oliveira, & Varajão, 2020). Research

indicates that fostering teacher collaboration can significantly improve student academic performance (García-Martínez, Montenegro-Rueda, Molina-Fernández, & Fernández-Batanero, 2021). In addition, the implementation of digital technology in school management, such as online communication platforms and cloud-based learning management systems, has accelerated the process of adapting to change (Munsamy, Dhanpat, & Barkhuizen, 2023; Tigre, Henriques, & Curado, 2024). The implementation of Agile leadership at SMAN 1 Pamukan Utara also involves iteration cycles consisting of planning, execution, and reflection (Carlson, Rees Lewis, Maliakal, Gerber, & Easterday, 2020). Each iteration lasts a certain amount of time, allowing the team to evaluate progress and make necessary adjustments (Wang, Balazinska, & Halperin, 2015). Thus, schools can respond to the changing needs of students and the community more quickly and effectively.

Other findings show that innovation in curriculum management and learning is one of the positive impacts of Agile Leadership (Hughes, Lee, Tian, Newman, & Legood, 2018). Schools respond more quickly to curriculum policy changes by adjusting project-based learning and technology-based learning strategies (Debarger et al., 2017). This increases student engagement and the relevance of the teaching materials to the needs of the industry and the job market (Khurniawan, Sailah, Muljono, Indriyanto, & Maarif, 2020, 2021). The implementation of Agile Management at SMAN 1 Pamukan Utara is very positive. The decision-making process becomes faster and more responsive, while the quality of education services improves. Students feel more engaged in the learning process, and teachers feel better prepared for future educational challenges. By implementing Agile Management, SMAN 1 Pamukan Utara has proven that education can become more dynamic and responsive to the needs of the community. Through strong teamwork and an adaptive attitude, this school is ready to face the challenges of education in the modern era

4. Conclusion

This research emphasizes that Agile Leadership has great potential in enhancing the adaptability and responsiveness of schools to change. By applying the principles of flexibility, collaboration, and innovation, school principals can create a more dynamic educational environment that is ready to face the challenges of the times. In addition, the implementation of Agile Leadership has proven to accelerate the decision-making process, enhance teacher and staff engagement, and encourage innovation in learning.

The implications of these findings highlight the importance of training and professional development for principals and education personnel to enable them to effectively apply Agile principles in leadership. In addition, policy support from the government and education stakeholders is crucial in encouraging the implementation of more flexible and adaptive leadership models. To strengthen these findings, further research is needed to explore the application of Agile Leadership in different types of schools and broader educational contexts.

Reference

- Anggadwita, G., Suganda, G. A. D., Azis, E., & Bagus Profityo, W. (2021). The Implementation of Technology Capabilities, Agile Leadership and Innovation Ambidexterity to Improve SMEs' Sustainability in Bandung. *Proceedings of the First Central American-and Caribbean International Conference on Industrial Engineering and Operations Management*, 125–135. Retrieved from <https://ieomsociety.org/proceedings/2021haiti/234.pdf>
- Arefazar, Y., Nazari, A., Hafezi, M. R., & Maghool, S. A. H. (2019). Prioritizing agile project management strategies as a change management tool in construction projects. *International Journal of Construction Management*, 1–12. <https://doi.org/10.1080/15623599.2019.1644757>
- Benoliel, P. (2021). A Team-Based Perspective for School Improvement: The Mediating Role of School Management Teams. *Journal of Research on Educational Effectiveness*, 14(2), 442–470. <https://doi.org/10.1080/19345747.2020.1849481>
- Bohari, A., Wider, W., Udang, L. N., Jiang, L., Tanucan, J. C. M., & Lajuma, S. (2024). Transformational leadership's role in shaping Education 4.0 within higher education. *Journal of Infrastructure, Policy and Development*, 8(8), 1–21. <https://doi.org/10.24294/jipd.v8i8.4900>
- Bond-Barnard, T. J., Fletcher, L., & Steyn, H. (2018). Linking trust and collaboration in project teams to project management success. *International Journal of Managing Projects in Business*, 11(2), 432–457. <https://doi.org/10.1108/IJMPB-06-2017-0068>

- Breakspear, S., Peterson, A., Alfadala, A., & Khair, M. S. B. M. (2017). Developing Agile Leaders of Learning: School leadership policy for dynamic times. In World Innovation Summit for Education (WISE) Research Series. Retrieved from <https://alistairsmithlearning.com/wp-content/uploads/2016/02/Agile-Learning-in-Schools.pdf>
- Carlson, S. E., Rees Lewis, D. G., Maliakal, L. V., Gerber, E. M., & Easterday, M. W. (2020). The design risks framework: Understanding metacognition for iteration. *Design Studies*, 70(100961), 1–27. <https://doi.org/10.1016/j.destud.2020.100961>
- Chatzipanagiotou, P., & Katsarou, E. (2023). Crisis Management, School Leadership in Disruptive Times and the Recovery of Schools in the Post COVID-19 Era: A Systematic Literature Review. *Education Sciences*, 13(118), 1–29. <https://doi.org/https://doi.org/10.3390/educsci13020118>
- Chen-Levi, T., Schechter, C., & Buskila, Y. (2021). Exploring Systems Thinking in Schools: Mental Models of School Management Teams. *International Journal of Educational Reform*, 30(2), 116–137. <https://doi.org/10.1177/1056787920963650>
- Dare, P. S., & Saleem, A. (2022). Principal Leadership Role in Response to the Pandemic Impact on School Process. *Frontiers in Psychology*, 13(943442), 1–4. <https://doi.org/10.3389/fpsyg.2022.943442>
- Debarger, A. H., Penuel, W. R., Moorthy, S., Beauvineau, Y., Kennedy, C. A., & Boscardin, C. K. (2017). Investigating Purposeful Science Curriculum Adaptation as a Strategy to Improve Teaching and Learning. *Science Education*, 101(1), 66–98. <https://doi.org/10.1002/sce.21249>
- Dwiridotjahjono, J., Yuhertiana, I., Partoyo, Tannar, O., Wijaya, S. Y., & Wibawani, S. (2024). Developing Agile Leadership With State Defense Character in Indonesia. *Revista de Gestao Social e Ambiental*, 18(6), 1–20. <https://doi.org/10.24857/rgsa.v18n6-137>
- Francis, D. L. (2022). The Agile Paradigm and Organisation Development in Higher Educational Institutions. *Proceedings of 8th International Conference on Higher Education Advances (HEAd'22)*, 833–840. <https://doi.org/10.4995/HEAd22.2022.14658>
- García-Martínez, I., Montenegro-Rueda, M., Molina-Fernández, E., & Fernández-Batanero, J. M. (2021). Mapping teacher collaboration for school success. *School Effectiveness and School Improvement*, 32, 631–649. <https://doi.org/10.1080/09243453.2021.1925700>
- Greany, T. (2022). Place-based governance and leadership in decentralised school systems: evidence from England. *Journal of Education Policy*, 37(2), 247–268. <https://doi.org/10.1080/02680939.2020.1792554>
- Gren, L., & Ralph, P. (2022). What Makes Effective Leadership in Agile Software Development Teams? *Proceedings - International Conference on Software Engineering (ICSE)*, 2402–2414. <https://doi.org/10.1145/3510003.3510100>
- Hameiri, L., & Nir, A. (2016). Perceived uncertainty and organizational health in public schools: The mediating effect of school principals' transformational leadership style. *International Journal of Educational Management*, 30(6), 771–790. <https://doi.org/10.1108/IJEM-05-2014-0060>
- Harris, A., & Jones, M. (2019). Teacher leadership and educational change. *School Leadership and Management*, 39(2), 123–126. <https://doi.org/10.1080/13632434.2019.1574964>
- Heale, R., & Twycross, A. (2018). What is a case study? *Evidence-Based Nursing*, 21(1), 7–8. <https://doi.org/10.1136/eb-2017-102845>
- Hughes, D. J., Lee, A., Tian, A. W., Newman, A., & Legood, A. (2018). Leadership, creativity, and innovation: A critical review and practical recommendations. *The Leadership Quarterly*. <https://doi.org/10.1016/j.leaqua.2018.03.001>
- John, B. (2018). Framework of agile management's sprint planning in construction projects-AFD method. *International Journal of Advance Research and Development*, 3(5), 88–93. Retrieved from <https://www.ijarnd.com/manuscripts/v3i5/V3i5-1189.pdf>
- Joo, H.-J., & Kim, T. (2022). Ambivalence toward bureaucracy: Responses from Korean school principals. *International Journal of Educational Management*, 36(3), 311–324. <https://doi.org/10.1108/IJEM-01-2021-0020>
- Khurniawan, A. W., Sailah, I., Muljono, P., Indriyanto, B., & Maarif, M. S. (2020). The Strategy Improving School-Based Enterprise: An Analytic Hierarchy Process Approach In Vocational School. *PalArch's Journal Of Archaeology Of Egypt/Egyptology*, 17(3), 1200–1215. <https://doi.org/https://doi.org/10.48080/jae.v17i3.490>
- Khurniawan, A. W., Sailah, I., Muljono, P., Indriyanto, B., & Maarif, M. S. (2021). Strategy for improving the effectiveness of management vocational school-based enterprise in Indonesia. *International Journal of Education and Practice*, 9(1), 37–48. <https://doi.org/10.18488/journal.61.2021.91.37.48>
- Kisno, K., Gultom, S., Purba, S., Darwin, D., Sumaryanto, S., & Sherly, S. (2022). Agile Methodology in Educational Leadership: Scrum. *Proceedings of the 7th Annual International Seminar on Transformative Education and Educational Leadership, AISTEEL 2022*. <https://doi.org/10.4108/eai.20-9-2022.2324591>
- Kwan, P. (2020). Is Transformational Leadership Theory Passé? Revisiting the Integrative Effect of Instructional Leadership and Transformational Leadership on Student Outcomes. *Educational Administration Quarterly*, 56(2), 321–349. <https://doi.org/10.1177/0013161X19861137>

- Laval, J., Fleury, A., Karami, A. B., Lebis, A., Lozenguez, G., Pinot, R., & Vermeulen, M. (2021). Toward an innovative educational method to train students to agile approaches in higher education: The A.L.P.E.S. *Education Sciences*, 11(6), 1–17. <https://doi.org/10.3390/educsci11060267>
- López-Alcarria, A., Olivares-Vicente, A., & Poza-Vilches, F. (2019). A systematic review of the use of Agile methodologies in education to foster sustainability competencies. *Sustainability (Switzerland)*, 11(10), 1–29. <https://doi.org/10.3390/su11102915>
- Mergel, I., Ganapati, S., & Whitford, A. B. (2021). Agile: A New Way of Governing. *Public Administration Review*, 81(1), 161–165. <https://doi.org/10.1111/puar.13202>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook* (3rd ed). California: SAGE Publications Inc.
- Munsamy, M., Dhanpat, N., & Barkhuizen, E. N. (2023). The development and validation of a digital leadership competency scale. *Acta Commercii*, 23(1), 1–15. <https://doi.org/10.4102/ac.v23i1.1057>
- Nebieridze, K. (2023). Innovative School Leadership Aspects. *Journal of Legal Studies*, 31(45), 17–37. <https://doi.org/10.2478/jles-2023-0002>
- Nesterkin, D. A., Porterfield, T. E., & Li, X. (2016). Relationship conflict, conflict management, and performance of information technology teams. *Journal of Computer Information Systems*, 56(3), 194–203. <https://doi.org/10.1080/08874417.2016.1153893>
- Ng, P. L., Maqsood, T., Khalfan, M., & Rahmani, F. (2023). AgiBuild: A Scaled Agile Framework for Building Adaptation Projects †. *Buildings*, 13, 1–22. <https://doi.org/10.3390/buildings13123019>
- Nissim, Y., & Simon, E. (2023). Agilecation: Agile Leadership in a Higher Education Institution (HEI) during the Covid-19 Pandemic a Test Case. *European Journal of Contemporary Education*, 12(1), 139–151. <https://doi.org/10.13187/ejced.2023.1.139>
- Norqvist, L., & Årlestig, H. (2021). Systems thinking in school organizations – perspectives from various leadership levels. *Journal of Educational Administration*, 59(1), 77–93. <https://doi.org/10.1108/JEA-02-2020-0031>
- Özgenel, M., Yazıcı, Ş., & Asmaz, A. (2022). The Mediator Role of Organizational Justice in the Relationship Between School Principals' Agile Leadership Characteristics and Teachers' Job Satisfaction. *Frontiers in Psychology*, 13(895540), 1–13. <https://doi.org/10.3389/fpsyg.2022.895540>
- Pirzadeh, P., Lingard, H., & Blismas, N. (2020). Effective communication in the context of safe design decision making. *Safety Science*, 131(104913). <https://doi.org/10.1016/j.ssci.2020.104913>
- Porkodi, S. (2024). The effectiveness of agile leadership in practice: A comprehensive meta-analysis of empirical studies on organizational outcomes. *Journal of Entrepreneurship, Management and Innovation*, 20(2), 117–138. <https://doi.org/10.7341/20242026>
- Postholm, M. B. (2019). The school leader's role in school-based development. *Educational Research*, 61(4), 437–450. <https://doi.org/10.1080/00131881.2019.1677171>
- Renault, M.-A., & Tarakci, M. (2023). Affective Leadership in Agile Teams. *California Management Review*, 65(4), 137–157. <https://doi.org/10.1177/00081256231179993>
- Saleh, H. H., Abbas, Z. A., Latif, N., & Khalil, Z. T. (2024). Agile Management in Healthcare Improving Patient Outcomes through Flexibility and Responsiveness. *Journal of Ecohumanism*, 3(5), 633–649. <https://doi.org/10.62754/joe.v3i5.3928>
- Sharp, J. H., & Lang, G. (2018). Agile in Teaching and Learning: Conceptual Framework and Research Agenda. *Journal of Information Systems Education*, 29(2), 45–52. Retrieved from <http://jise.org/Volume29/n2/JISEv29n2p45.html>
- Soyata, A. Z., Aksu, S., Woods, A. J., İşçen, P., Saçar, K. T., & Karamürsel, S. (2019). Effect of transcranial direct current stimulation on decision making and cognitive flexibility in gambling disorder. *European Archives of Psychiatry and Clinical Neuroscience*, 269, 275–284. <https://doi.org/10.1007/s00406-018-0948-5>
- Spiegler, S. V., Heinecke, C., & Wagner, S. (2021). An empirical study on changing leadership in agile teams. *Empirical Software Engineering*, 26(41), 1–35. <https://doi.org/10.1007/s10664-021-09949-5>
- Stoddard, M. M., Gillis, B., & Cohn, P. (2019). Agile Project Management in Libraries: Creating Collaborative, Resilient, Responsive Organizations. *Journal of Library Administration*, 59(5), 492–511. <https://doi.org/10.1080/01930826.2019.1616971>
- Tam, C., Moura, E. J. da C., Oliveira, T., & Varajão, J. (2020). The factors influencing the success of on-going agile software development projects. *International Journal of Project Management*, 38(3), 165–176. <https://doi.org/10.1016/j.ijproman.2020.02.001>
- Tigre, F. B., Henriques, P. L., & Curado, C. (2024). The digital leadership emerging construct: a multi-method approach. *Management Review Quarterly*. <https://doi.org/10.1007/s11301-023-00395-9>

- Todd, A. W., Algozzine, B., Horner, R. H., Preston, A. I., Cusumano, D., & Algozzine, K. (2017). A Descriptive Study of School-Based Problem-Solving. *Journal of Emotional and Behavioral Disorders*, 1-11. <https://doi.org/10.1177/1063426617733717>
- Varga-Atkins, T., Sharpe, R., Bennett, S., Alexander, S., & Littlejohn, A. (2021). The choices that connect uncertainty and sustainability: Student-centred agile decision-making approaches used by universities in australia and the uk during the covid-19 pandemic. *Journal of Interactive Media in Education*, 2021(1), 1-16. <https://doi.org/10.5334/jime.649>
- Wang, J., Balazinska, M., & Halperin, D. (2015). Asynchronous and fault-tolerant recursive datalog evaluation in shared-nothing engines. *Proceedings of the VLDB Endowment*, 8(12), 1542-1553. <https://doi.org/10.14778/2824032.2824052>