

Will Industry 5.0 Open New Opportunities for Project Management Research?

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The Aim and Scope of This Special Issue

While the Fourth Industrial Revolution—also called Industry 4.0—drove us toward adopting more technology to improve efficiency and productivity in our industries, the Fifth Industrial Revolution—Industry 5.0—is urging us to focus on three pillars: (1) a human-centric approach to adopting technology; (2) sustainable development; and (3) resilience in our supply chain management, because unexpected events are continuing to greatly impact our post-COVID-19 economies.

While Industry 4.0, which began in 2011, focused on the integration of cyber-physical systems, such as Internet of Things (IOT), additive manufacturing (3-D printing), big data, artificial intelligence (AI), collaborative robots, virtual reality (VR), and 5G mobile networks in manufacturing, its influence extended to other sectors such as construction (Sawhney et al., 2020) and healthcare.

According to Ivanov (2023), the influence of Industry 5.0 spans three levels and four areas of concern and covers major technological principles, as summarized in Table 1, thus projecting a wider societal impact than Industry 4.0.

Table 1. The Key Features and Impact of Industry 5.0 (Based on Ivanov, 2023, p. 1688)

Level/Focus	Resilience	Sustainability	Human-Centricity
Societal	Viability of interconnected supply chain networks	Sustainable usage of resources and energy	Viable human-centric ecosystems
Network	Resilient reconfigurable supply chain	Sustainable supply chain and life cycle assessment of value	Cyber-physical and digital supply chains
Plant or Operations	Resilient manufacturing, logistics, and units	Energy efficient manufacturing and logistics; reduced carbon emissions	Human machine collaboration in teams; layouts for a healthy and safer environment
Organization Resilient value creation and use, well-being of humans, sustainable production and society			
Management Focus on viability as an integrative perspective of resilience, human-centricity and sustainability			
Technology Collaboration–coordination–communication–automation–identification–data analytics			
Performance Efficiency–productivity–resilience–viability			

Project management researchers who focused on the application of technologies were able to conduct research that contributed toward the aspirations of Industry 4.0 with its focus on digitalization (Marnewick & Marnewick, 2022; Steen et al., 2022). The evolution into Industry 5.0 will facilitate more areas of research for project management researchers who are working in human-centric applications, sustainable development, and building resilience in organizations as shown in Table 1.

Hence, this special issue will lay out how project management researchers can widen their horizon of research into areas of focus within Industry 5.0. Industry 5.0 is also driven by the rise of Society 5.0 (Caryannis & Morawska-Jancelewicz, 2022), which urges us to balance technological development toward a more human-centered society to address societal issues.

We expect authors to extend their work from the application of their research to its theoretical implications. The guest editors would therefore like to point out these theories to consider as a guide:

1. *Institutional theory*, because institutions play a crucial role in influencing organizational behavior to gain legitimacy as well as change through the influence of institutional entrepreneurship (Scott, 2014; Hardy & Maguire, 2017);
2. *Socio-cognitive theory* (Raven & Geels, 2010), which studies the relationships among humans, technology, and the environment;
3. *Actor-network theory*, which studies the interactions between humans and non-humans such as robots (Iyamu & Mlambo, 2022; Fischer et al., 2020);
4. *Sociotechnical systems theories* that introduce technology into organizations (Winby & Mohrman, 2018; Bednar & Welch 2020; Yu et al., 2023);
5. *Activity theory*, which studies the integration of activities carried out by technology specialists and users of technology (Kaptelinin & Nardi, 2018);
6. *Paradox theory*, which investigates how organizations deal with transformations that cause divergent or contradictory demands (Smith & Lewis, 2011); and
7. *Design thinking in practice*, in order to design human-robot systems (Ang et al., 2023).

Potential Topics of Interest

The following questions could help authors consider potential areas to address:

1. What potential does Industry 5.0 have for project management research in the development of human-centric solutions supported by technology?

2. What potential does Industry 5.0 have for project management researchers to use technology in the quest for sustainable development?
3. What potential does Industry 5.0 have for project management scholars to increase the resilience of organizations in the wake of catastrophic events such as pandemics, unexpected wars, and political polarization?
4. How can project management scholars working on areas impacted by Industry 4.0 widen their horizon to move into areas that will be impacted by Industry 5.0?
5. How can projects support Industry 5.0 by developing organizational and individual competencies?

Some examples of how Industry 5.0 will change the way we operate can also be used to further project management research. At ProjMAN, the International Conference on Project Management, held in Lisbon, Portugal, in 2022, Barata and Kayser (2023) described Industry 5.0 as future oriented and representing a “humanized vision of technological transformation in industry, balancing the current and future needs of workers and society with the sustainable optimization of energy consumption, materials processing and product lifecycles” (p. 778). Nahavandi (2019) explains that Industry 4.0 was focused on automation and did not have a strong focus on environmental protection or the application of technology toward environmental sustainability, which has changed in Industry 5.0. Based on Maddikunta et al. (2021) and Adel (2022), Industry 5.0 will have an impact on diverse sectors of industry, including healthcare, manufacturing, education, food, and textiles. One example of the impact of Industry 5.0 could be the building of smart hospitals that can improve the lives of medical professionals by using AI to improve diagnosis and care. Remko (2020) and Karmaker et al. (2023) found that the COVID-19 crisis caused major supply chain disruptions due to the lack of appropriate risk management. Industry 5.0 will help encourage research into de-risking supply chains by moving away from over focusing on costs and payment terms and aiming toward more flexibility, short response times, and the use of multiple sources. Industry 5.0 will also drive more research into resilience (Naderpajouh et al., 2020; Sindhwani et al., 2022).

We welcome conceptual and empirical papers that focus on micro or macro aspects of Industry 5.0. A wide range of methodologies and methods, including innovative methods, are welcome. Systematic literature reviews of Industry 5.0 and its scope for project management research are also welcome. Findings reported in empirical papers should be well supported. We also welcome research that critiques the shortcomings of Industry 5.0.

Submission Process and Time Lines for the Special Issue:

The call for papers offers authors an opportunity to submit near developmental papers at the European Academy of Management (EURAM) to be held at the Bath School of Management, United Kingdom, 25–28 June 2024. Paper submission for the conference is due on 11 January 2024. See <https://conferences.euram.academy/2024conference/> for more details.

All authors should submit a full paper by 31 August 2024, following the same author guidelines as those for regular issues (<https://mc.manuscriptcentral.com/pmj>). Submitted papers should comply with regular PMJ author guidelines and will be subject to the routine PMJ review process.

The anticipated time lines for this special issue are:

- Submission of a 500- to 700-word extended abstract to the guest editors: 31 October 2023
- Feedback to authors: 30 November 2023
- Submission of full papers to the journal: 31 August 2024
- Approximate date of publication: Mid-2025

For further information or additional questions, please contact one of the guest editors of this special issue.

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