

Guest editorial: Exploring the Shingo model: advancing organisational excellence through theory and practice

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This special issue of the *IJLSS* addresses the Shingo Model, its principles, application in industry and the challenge for the future [1]. This is timely, as major forces are changing the nature of work, not least geopolitical volatility, technological acceleration, sustainability pressures, workforce transformation and supply chain fragility (Deloitte, 2025).

Organisations have also recognised that sustainable performance cannot be achieved through tools alone (Sony and Naik, 2019). Instead, excellence emerges from deeply embedded cultural norms, principle-driven behaviours and systems intentionally designed to reinforce them. Few frameworks capture this evolution as comprehensively as the Shingo Model. Once rooted in the technical legacy of Shigeo Shingo, the model has matured into a holistic architecture for enterprise excellence – one that integrates culture, systems and results through guiding principles (Shingo Institute, 2021).

The model, in its current form, dates from 2008, and the Prize originated in 1988, is widely regarded as the world's highest standard for organisational excellence (Shingo Institute, 2021). The approach is designed to capture the “necessary components of creating a culture that is able to sustain improvements and consistently drive results. The focus shifted from an emphasis on tool and programmatic assessment toward a complete assessment of an organization’s culture” (Shingo Institute, 2021, p. 53).

The Shingo Model has received little academic study and none focusing on developing the approach. This special issue doubles the published academic research in the field. Edgeman, then at the Shingo Institute, also identified the problem that models such as the Shingo Model “tend to be driven by experience, rather than grounded in theory” (Edgeman, 2018, p. 1321).

Past academic contributions either contrast the Shingo Model with other approaches or are case studies. In the former area, for instance, Sá *et al.* (2023) compare the suitability of the Shingo Model and EFQM in Portugal. Case study research reflects the evolution of the Shingo Model from its earlier North American focus on operational excellence tools to a holistic enterprise excellence global focus. Hines *et al.* (2020), for instance, question why many lean programmes fail to sustain, and Kelly and Hines (2019) discuss how a single site implementation can be spread to group sites.

Over the past decade, scholarly interest in the Shingo Model has accelerated, driven by four converging forces:

- (1) the limitations of tool-centric lean transformations;
- (2) the rapid move towards new technologies within Industry 4.0;
- (3) the rise of human-centric paradigms such as Industry 5.0; and
- (4) the need for empirical evidence linking behaviours, systems and performance.

Looking forward, we will also use the papers and other recent outputs to suggest how the Shingo Model and approach could be improved.



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Advancing Shingo scholarship

This special issue does not simply add more studies on the Shingo Model but shows how the field is maturing. First, several papers advance *behavioural deployment and cultural enablers*. Several papers in this issue seek to close the gap in operational excellence research between the endorsement of principles and the enactment of these principles in daily organisational life. Ray *et al.*'s study demonstrates how organisational values and action learning reinforce continuous improvement and explicitly addresses the link between culture, learning mechanisms and Shingo principles within a charity. Qeytasi *et al.* contribute practical behavioural tools for embedding desired behaviours into management, work and improvement systems, whilst Jekiel *et al.* tackle the persistence of role-based assumptions that constrain distributed leadership in improvement environments.

Furlan and Caceres deepen this cluster using fuzzy-set qualitative comparative analysis to demonstrate that systematic problem-solving (SPS) behaviour among shop-floor workers is not merely complementary to lean practices but is a necessary condition for superior financial performance. Majerus and Abraham reach the same conclusion from inside a decade-long practitioner transformation, documenting how psychological safety, humble leadership and employee empowerment were not peripheral cultural amenities but the enabling mechanisms without which no technical improvement produced lasting results. These contributions establish that the Shingo Model's cultural enablers are not the softer half of an otherwise technical framework: they are the load-bearing foundation on which the rest depends.

A second theme concerns *systems design and model integration*, addressing a major gap in the fragmented treatment of excellence frameworks, management systems and improvement methodologies literature. Organisations frequently implement Shingo principles, ISO requirements and Lean Six Sigma tools in parallel streams that never converge, producing compliance without transformation. Marques *et al.* propose a unified framework that links normative requirements, improvement tools and principle-based excellence across organisational levels, arguing that without such integration organisations risk duplication, siloed implementation and procedural compliance that substitutes for meaningful change. Turan extends this by redesigning the Model for an I5.0 context, using a structured fuzzy multi-criteria decision-making method to weight model dimensions and principles according to their relative importance in environments where sustainability, resilience and human-centricity have become strategic imperatives. This redesign theme mirrors the work of [Magnani *et al.* \(2026\)](#) and their discussion of Shingo 2.0 based on the case of the Ipsen Shingo Prize-winning site.

Qeytasi *et al.* complement this by positioning the Shingo Model as a mediating architecture between I4.0 technologies and I5.0 values – a contribution that matters precisely because most digital transformation programmes lack such a mediating layer and consequently optimise processes while degrading the human conditions that sustain continuous improvement. Majerus and Abraham reinforce the systems design theme, detailing the three-phase operating system – creative, development and mass design phases – and the management infrastructure required to support each, from matrix organisation and visual planning boards to pull systems and DMAIC-based continuous improvement. Collectively, these contributions move the field from viewing the Shingo Model as a standalone excellence award framework towards understanding it as an integrative architecture capable of aligning technology, management systems, human development and sustainability within a coherent whole.

A third theme is *empirical validation of principle–performance relationships*. A persistent criticism in the literature is that principle-based models are normatively appealing

but weakly evidenced in terms of measurable outcomes. Furlan and Caceres show that lean-behaviour configurations predict financial performance, using return on assets measured across three years. Subburaman *et al.*, in a health-care environment, show that stronger adherence to operational excellence practices is associated with better process efficiency and patient satisfaction and demonstrate that this alignment can be assessed and evidenced even where organisations have not formally adopted a named methodology. Silva *et al.* provide further empirical grounding. Together, this study shifts the debate from whether Shingo-aligned principles are desirable to how, and under what conditions, they are associated with performance in practice.

A fourth theme is *sectoral and contextual expansion*. Prior research has concentrated heavily on traditional manufacturing environments, leaving open the question of whether the model's principles are genuinely universal. This issue systematically widens that range. Ray *et al.*, looking at the charity sector, found that the model's cultural enablers travel well into a context where values are existential rather than instrumental and where continuous improvement must be anchored in purpose rather than efficiency. Majerus & Abraham challenge the assumption that R&D and product development must remain loosely structured creative environments, demonstrating instead that disciplined Shingo-aligned systems can reduce product development cycle time by 75% while preserving and even amplifying creative output.

Silva *et al.*, Subburaman *et al.* and Barboza *et al.* broaden the evidence base further into automotive and health-care settings, including contexts shaped by active digital transformation programmes, whilst Turan (2026) provides a conceptual framework for understanding how the model must evolve within an I5.0 landscape. The convergence across sectors on the foundational importance of humble leadership, psychological safety, SPS and systems thinking suggests that these are genuine universals rather than manufacturing-specific artefacts.

These four themes are not independent: they form an argument. Behaviours must be deployed and sustained through cultural enablers; systems must be designed to frame and reinforce those behaviours; the relationship between principle alignment and performance must be empirically established rather than assumed; and the framework's claims must be tested across diverse sectors before they can be treated as general. The cumulative result is a Shingo scholarship that is more behaviourally concrete, more systemically integrated, more empirically grounded and more contextually versatile than it was before.

Methodological diversity

The evolving body of Shingo research demonstrates something unusual in the operational excellence field: a methodological ecosystem as diverse as the organisational phenomena it seeks to explain. Rather than converging on a single paradigm, Shingo scholarship now uses a plurality of approaches that illuminate different facets of principles, behaviours and systems.

This maturity mirrors the evolution of the Shingo approach itself. Earlier research relied heavily on tool-centric case studies focused on kaizen events and operational systems. In contrast, the new studies adopt multi-method designs. Ray *et al.* continue the case-study tradition by examining cultural values and action learning, while Marques *et al.* offer conceptual integration across ISO, Lean Six Sigma and Shingo. Qeytasi *et al.* extend this by linking the model to Industry 4.0 and 5.0.

Methodological diversification is also evident in the use of advanced analytical techniques. Furlan and Caceres employ configurational qualitative analysis to identify behavioural-performance pathways. Subburaman *et al.* and Turan develop behavioural

measurement instruments. Geographically, the field has expanded beyond its historical focus. Subburaman *et al.* study an Indian eye hospital, Silva *et al.* examine Industry 4.0 in a Portuguese Toyota plant and Qeytasi *et al.* explore Industry 5.0 alignment. This broadening demonstrates the model's applicability across diverse sectors and contexts.

A further development is the shift from descriptive cultural narratives to research that links behaviours to measurable outcomes. Subburaman *et al.* and Turan use behavioural instruments; Furlan and Caceres model behaviour–performance causality; Jekiel *et al.* analyse leadership behavioural redesign; and Ray *et al.* examine behavioural learning systems. This reflects a deeper engagement with behavioural science.

Integration with other frameworks is another notable trend. Studies connect Shingo to Industry 4.0 / 5.0 (Qeytasi *et al.*, Silva *et al.*), ISO and Lean Six Sigma (Marques *et al.*), innovation (Majerus and Abraham) and cultural values (Ray *et al.*). This positions the Shingo Model within a wider ecosystem.

Finally, there is a clear move towards systems-level learning. Barboza *et al.* show how interconnected systems generate emergent improvements in public-sector health care; Qeytasi *et al.* examine systems for human-centric learning; Majerus and Abraham analyse innovation systems; and Jekiel *et al.* explore hierarchical and non-hierarchical leadership systems. Silva *et al.* focus on digital system integration.

Together, these contributions depict a field expanding its methodological repertoire while interrogating its own assumptions. The tensions between behavioural measurement and cultural interpretation, human-centric learning and digital transformation and system-level and single-system inquiry are productive spaces for intellectual growth. By leveraging this diversity, future Shingo research is well positioned to illuminate how principles operate across sectors, technologies and organisational contexts.

Learnings for the Shingo Institute

This special issue generates obligations as well as insights. The research assembled here not only describes the current state of Shingo scholarship but also identifies where the Shingo Institute should act if the model is to remain theoretically credible, practically relevant and globally applicable. The recommendations offered here are not criticisms but a forward-looking agenda for strengthening and modernising the Shingo architecture.

The papers collectively show how organisational excellence is evolving and where the Shingo Model should evolve with it. The following three categories of learning emerge:

- (1) incremental improvement (kaizen) within the current model;
- (2) step-change development (kaikaku) that pushes its boundaries; and
- (3) disruptive innovation (kakushin) that redefines them.

Incremental change: Kaizen

Most contributions assume the existing Shingo Model and therefore highlight improvements within its current boundaries.

1. Strengthen behavioural measurement and KBIs

Organisations increasingly require operational precision in behavioural guidance. The papers highlight cultural barriers, communication, safety, teamwork and the need for clearer behavioural descriptors linked to each principle. While Majerus and Abraham introduce KBIs and Furlan and Caceres operationalise SPS, behavioural measurement remains underdeveloped relative to operational metrics. The Institute should therefore create standardised, replicable KBI frameworks, behavioural maturity models and tools for tracking behavioural change at individual, team and system levels.

2. *Recognise sectoral diversity and global contexts*

The research demonstrates the Model's applicability beyond manufacturing – to charities, health care, digital workplaces and public services (Barboza *et al.*, Ray *et al.*, Majerus and Abraham). These contexts introduce distinctive conditions – mission primacy, volunteer cultures, regulatory complexity – that current guidance does not fully address. Sector-specific resources and assessment criteria are needed, particularly for complex environments such as health care, education and the military. As Shingo Prize winners now span Europe, Latin America and Asia, exemplars must reflect diverse geographies and linguistic contexts rather than defaulting to American industrial cases.

3. *Make systems maturity and system-level learning explicit*

Organisations require clearer guidance on how systems evolve in depth, sophistication and interconnection. What once constituted an advanced system is now basic and new ecosystem-level systems increasingly shape wellbeing and community impact. The Institute should articulate system maturity stages, diagnostic tools for system coherence and interrelationships and learning loops as core mechanisms of excellence. With its longitudinal access to Prize applicants, the Institute is uniquely positioned to develop a maturity progression framework that transforms the Prize from recognition to developmental roadmap.

4. *Clarify interoperability with other excellence models*

Many organisations implement Shingo alongside ISO, Lean Six Sigma, digital transformation frameworks and industry standards. Several papers call for explicit guidance on how Shingo complements these models rather than competes with them. The model should be positioned as an integrative architecture that clarifies the unique contribution of principles in environments dominated by compliance or tool-based approaches.

Step change: Kaikaku

Two areas require more radical development over the 2–3 year horizon.

1. *Integrate Industry 4.0/5.0 into the Shingo architecture*

Digital transformation is now a structural condition of operations. The current model treats technology as an enabler, but the research suggests it must be embedded more centrally. Principles must be reinterpreted for algorithmically mediated environments, where AI, automation and cyber-physical systems shape work and improvement. Proposals such as Shingo 5.0 (Turan) and Shingo 2.0 (Magnani *et al.*) illustrate possible directions. The Institute should clarify how digital systems support ideal behaviours, how to design principle-aligned digital workplaces and how to protect human-centric commitments in increasingly automated contexts.

2. *Re-examine leadership systems and hierarchical assumptions*

Jekiel *et al.* highlight a tension between the Model's emphasis on engaging everyone and its reliance on leader-centric behavioural guidance. Contemporary leadership science suggests leadership is distributed, relational and emergent. The Institute should revise how leadership is theorised, assessed and taught, addressing meaning-making, empowerment and leadership in agile or networked structures. Leadership systems should be designed to enable rather than control, requiring a significant conceptual shift.

Disruptive change: Kakushin

The final set of learnings concerns redefining the boundaries of the Shingo approach. Contemporary work by Hines *et al.* (2026) and Mike Martyn (2026) suggests that what enables organisations to win a Shingo Prize may not sustain excellence as expectations rise. Hines *et al.* (2026) identify four mindsets – growth, outward, improvement/innovation and learning – as foundations for self-sustaining individuals. Mike Martyn (2026) proposes five additional organisational principles – contribution to society, embed a philosophy, design for experience, drive innovation and learn continuously. Despite different starting points, these frameworks converge.

The question for the Institute is whether, and how, such mindsets and transformational principles should extend the Shingo Model. A useful analogy is a tree: mindsets as soil, Shingo principles as roots and transformational principles as branches enabling contribution, innovation and learning.

Conclusion

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This special issue arrives at a moment of real consequence for Shingo scholarship. The papers assembled here do more than extend an emerging literature; they collectively redefine its purpose. The Shingo Model enters this issue as a respected but under-examined framework and leaves it as the centre of a visibly maturing, multi-method, cross-sector research field.

Across the contributions, several insights now stand on firmer empirical ground. Behaviour is not an adjunct to technical excellence but its precondition. Systems must be designed not only for efficiency but to sustain the cultural conditions that make improvement self-renewing. Principle alignment is both measurable and configurational: partial adoption does not merely weaken results but can undermine existing investments. And the Model's principles, tested across manufacturing, health care, charitable organisations, automotive settings and innovation systems, converge around a small set of universal foundations – humble leadership, SPS and systems thinking – that no single-sector literature could have revealed.

Yet important questions remain unsettled. The empirical base, while expanding, is still modest relative to the scope of the Model's claims. The studies here identify relationships but do not yet fully explain the mechanisms through which they operate. Longitudinal research capable of distinguishing sustained cultural consolidation from short-term performance spikes is particularly needed. Likewise, large-scale survey work, configurational replications and cross-sector comparative studies represent essential methodological frontiers.

Progress will depend on deeper cross-disciplinary collaboration. The questions raised here – how behaviour change is sustained at scale, how digital systems interact with human-centric improvement cultures, how leadership becomes distributed – cannot be answered by operations or quality management alone. They require insights from organisational psychology, complexity science, institutional theory and human-computer interaction. The Shingo Model's integrative ambition makes it an ideal platform for such interdisciplinary inquiry, and partnerships between the Shingo Institute and universities globally would accelerate this development.

The contributions also highlight opportunities for conceptual expansion. Future research must explore how the Shingo approach can evolve from defining organisational maturity to enabling organisational mastery, particularly under conditions of technological, social and environmental complexity. This includes understanding the systems and mechanisms that accelerate mindset- and identity-based behavioural change and examining how the Shingo principles might extend to domains such as digital technologies, societal contribution, innovation and experience design. These areas are becoming central to contemporary excellence.

Most fundamentally, this issue invites scholars to reposition the Shingo Model not only as an object of study but as a platform for addressing broader organisational questions: sustaining improvement amid technological disruption, preserving human-centric values in algorithmic environments and enabling distributed leadership in historically hierarchical systems. These challenges extend far beyond Shingo, yet the model, properly developed and empirically grounded, offers a principled framework for investigating them. The task now is

to build the research community and institutional partnerships capable of realising that potential.

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Note

- [1.] A full version of this introduction is available at: https://www.researchgate.net/publication/405147333_Full_Editorial_for_Shingo_Special_Edition_IJLSS_2026

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Further reading

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