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LEAN CONSTRUCTION BUILDING CAPABILITY PROGRAM: AN AUSTRALIAN EXPERIENCE

Shang Gao[1]

ABSTRACT

Lean construction has matured significantly over the past decades. Deployment of lean tools remains common, while systematic capability development across the industry is rare. Although individual competencies and isolated training initiatives have been widely discussed, there is limited evidence on how industry-level organisations intentionally design and operationalise lean capability-building programmes. This paper addresses this gap through a reflective case study of the *Lean Construction Building Capability Programme* led by Lean Construction Australia and New Zealand (LCANZ). Drawing on two years of programme development, stakeholder engagement, and pilot delivery, the study examines how LCANZ conceptualised lean capability, navigated the distinction between competency and capability, and responded to debates surrounding certification, particularly in relation to ISO 18404. The findings illustrate how LCANZ adopted a balanced push–pull approach, combining structured knowledge provision with demand-driven industry engagement, while deliberately postponing formal certification due to market maturity and assessor constraints. The paper contributes to lean construction theory by extending discussions of capability building beyond the organisational level and offering a model for industry-led capability development. Practically, it provides insights for industry bodies, professional associations, and policymakers seeking to strengthen lean adoption through scalable and context-appropriate capability-building initiatives.

KEYWORDS

Lean construction, capability, case study, Australia, ISO18404, training.

INTRODUCTION

Lean construction has been around for several decades, and while it is younger than lean manufacturing, it has matured considerably. Numerous studies and case reports demonstrate successful lean implementation across diverse projects and regions worldwide. As Ward and Caklais (2019) put it, deployment of lean tools and techniques are not uncommon, but business transformations appear extremely rare. Despite this, there is limited information on the level of lean capability among professionals globally, beyond the recognition of lean enthusiasts, academics, and practitioners. This study investigates the current landscape of lean capability programs worldwide and examines how organisations are developing lean competencies among their professionals. In particular, it reports on the Australian experience through the Building Lean Capability Program (BLCP) initiated by Lean Construction ANZ, which has been under development for two years and is still ongoing. The program aims to systematically develop lean knowledge, skills, and organisational practices, providing a practical example of capacity-building efforts in the construction industry.

[1] Senior Lecturer, Faculty of Architecture, Building and Planning, The University of Melbourne, Parkville, Australia, shang.gao@unimelb.edu.au, orcid.org/0000-0002-4161-5592

LEAN CONSTRUCTION

Lean construction encompasses a set of philosophies, principles, methods, and tools that originated from the manufacturing industry (Ballard et al., 2007; Koskela et al., 2002). Collectively, these elements constitute the body of knowledge of lean construction. It is important to acknowledge that early foundational work by scholars such as Koskela, Ballard, and others laid the theoretical and practical groundwork for the field. Koskela (2000) contributed significantly to the theoretical development of lean construction through the Transformation–Flow–Value (TFV) model, while Ballard (2000) and his colleagues developed the Last Planner System, which has since been widely adopted as a well-known Lean construction practice. The growing momentum of the lean construction community is clearly evident in the annual International Group for Lean Construction (IGLC) conference, which has become the premier forum for advancing lean construction knowledge. The wide breadth of IGLC conference tracks, ranging from theory and off-site construction to production planning and control, as well as people, culture, and change, demonstrates that the conference collectively represents a comprehensive spectrum of lean construction bode of knowledge. In this sense, the IGLC community itself plays a central role in continuously shaping and expanding the body of knowledge of lean construction.

LEAN CAPACITY, CAPABILITY AND COMPETENCY

The language used to describe about capacity, capability, and competency has overlapping (Jones, 2014). When ChatGPT is asked what the difference between competency, capability and capacity are, it is nicely summarised as

- Competency — Can you do it? (skills & knowledge)
- Capability — How well can you adapt and perform? (performance & integration)
- Capacity — Do you have enough to do it? (resources & scale)

COMPETENCY

Competency is an important skill that is needed to do a job. The term is used in the ISO18404:2025[2] which defines the competencies for the attainment of specific levels of competency with regards to Six Sigma, Lean, and 'Lean & Six Sigma' in individuals and their organisations. Candidates are expected to show that they possess a sufficient level of competence, combining education, training, skills, and experience required to effectively perform their roles (ISO18404:2025). The appendices of the standard (pp. 21–34) present three detailed competency frameworks corresponding to different levels of expertise: Lean Practitioner, Lean Leader, and Lean Expert. Taking the Lean Practitioner level as an example, the standard specifies 18 competencies, ranging from 'understanding the benefits of Lean' to 'motivating others'. Practitioners are expected to demonstrate these competencies to support the transformation of organisations into Lean enterprises.

Interestingly, several studies related to ISO 18404 have been published within the IGLC community. This includes Ward and Caklais (2019) provided one of the earliest discussions of ISO 18404, offering a clear overview of the standard and presenting a case study of a contractor in England that became the first organisation to achieve ISO 18404 accreditation. The authors concluded that ISO 18404 is appropriate for the construction sector and can serve as a useful roadmap for organisations seeking business transformation. Following that, Ebbs and Ward (2024) reported the ISO 18404 certification journey of a UK highway alliance and Al Hour et al. (2025) investigated how instruments like Direct Work Observations (DWOs) can enhance workflow

[2] ISO18404: 2015 is titled Quantitative methods in process improvement — Six Sigma — Competencies for key personnel and their organisations in relation to Six Sigma and Lean implementation

and assist Lean professionals in attaining ISO 18404 certification. Together, these studies provide valuable empirical examples of how the competency-oriented certification can be operationalised in practice.

CAPABILITY

The Cambridge dictionary defines capability as the ability to do something. It is commonly acknowledged that identifying both the existing capacities and the required capacities of individuals is critical for the successful implementation of Lean (Ranadewa et al., 2021). A quick search, using the term 'capability' or 'capacity', in IGLC search bar resulted in a number of papers (43 and 70, respectively). A few are worth noting here, including Ankomah et al. (2018) developed a conceptual framework, grounded in the Toyota Way, to illustrate how small and medium-sized enterprises (SMEs) can build the capacity and capability required for Lean Construction (LC) adoption. While the framework does not explicitly distinguish between capacity and capability, the authors emphasised the need for policies and plans to support the development of both in facilitating LC adoption among SMEs. The authors assert that piecemeal implementation of isolated lean tools is unlikely to succeed for SMEs; rather, a holistic, systemic adoption is needed. Another interesting work is from Berg and Reed (2019) who investigated whether Takahiro Fujimoto's theory of capability-building competition, initially developed for the automotive industry, could be applied to the construction sector. In their study, capability is conceptualised as organisational capability comprising three levels: routinised manufacturing capability, routine learning, and evolutionary learning. Their central argument is that LC theory can be advanced by better understanding the mechanisms of capability-building in the automotive industry and translating these insights to the contexts of design and construction. Similarly also focusing on the organisational level and drawing from organisational ambidexterity theory, Fang and Daniel (2021) argued that LC capability has not been clearly defined in prior literature, thus the authors propose to conceptualizing it as an ambidextrous capability, combining two sometimes contradictory yet complementary capacities: LC *exploitative* capability and LC *exploratory* capability. Exploitative capability refers to the use of existing knowledge, standardization, waste elimination, continuous flow and efficiency; exploratory capability refers to flexibility, learning, innovation, and adaptation to variability. Many of these discussions are framed at the organisational level, their operationalisation ultimately depends on individuals possessing the requisite ability to act. Developing such ability or competency requires deliberate investment at the individual level. In this regard, training, learning, and the effective utilisation of existing capacities have been identified as among the most influential individual-level strategies for capability development (Ranadewa et al., 2021).

CAPABILITY PROGRAMME

BY PEAK BODY OR CONSULTANTS

A subsequent question concerns whether structured lean construction capability or certification programmes have been designed or launched globally, and what form these initiatives take. In recent years, there has been significant growth in formalised capability-building programmes that support the dissemination and adoption of lean construction principles internationally. Among these, the Lean Construction Institute (LCI) in the United States remains the most influential and widely recognised. LCI provides structured learning pathways that integrate eLearning modules, in-person workshops, and specialist training in quite a number of lean topics. Earlier studies (Forbes et al., 2018) reported that LCI had deliberately chosen not to develop its own certification scheme, instead partnering with the Associated General Contractors (AGC), which offered a lean certification programme. This position evolved in early 2020s with the

launch of LCI's practitioner certification (LCI-CPC). The LCI-CPC represents a knowledge- and capability-based certification, with assessment requirements articulated in the LCI candidate handbook. The assessment framework is structured around three domains: lean principles, people-related capabilities, and lean practices. In parallel, AGC offers a modular Lean Construction Education Programme comprising foundational courses (e.g., Lean 101) and progressing toward the CM-Lean credential. This programme is particularly oriented towards contractors, owners, and integrated project teams, and has been widely adopted as an accessible, industry-aligned pathway for developing lean construction capability. In the United Kingdom, LCI-UK has worked in collaboration with the Construction Industry Training Board (CITB) and leading industry organisations to develop a suite of lean construction short courses. These courses are delivered through approved training organisations (ATOs) by LCI-UK-approved trainers. The foundation-level lean construction curriculum comprises eight modules, ranging from introductory lean concepts to value stream mapping, reflecting a structured yet flexible approach to capability development. The Lean Construction Academy (affiliated with Lean construction blog) offers learning contents by domain experts together with various recordings of webinars and conferences. They noted that students can earn certificates of completion. In the Europe, Germany's VDI-aligned Lean Construction Akademie provides a multi-module programme leading to the Certified Lean Construction Expert (VDI 2553) designation. Similarly, the LCI Ireland has also introduced a belt-based capability development system, comprising White, Yellow, and Green Belt levels. Instructors affiliated with LCI Ireland are required to deliver training using standardised and approved course materials, ensuring consistency and quality across programme delivery. Collectively, these programmes (see Table 1) illustrate the increasing institutionalisation of lean construction education globally with the same aim – raising the lean construction capability. They also highlight the emergence of differentiated capability-building models—from certification-based pathways to experiential workshops and practitioner communities—each contributing to lean learning and practice in their own way.

Table 1: Examples of certified training programmes

Program / Provider	**Delivery Mode / Format**	**Certification system**	**Topics covered**
Lean Construction Institute (LCI, USA)	Blended: online eLearning, in-person workshops, exam and portfolio review	LCI-CPC (Construction) and LCI-CPD (Design) practitioner certification	Lean principles, people systems, practices; strong emphasis on Last Planner System
Associated General Contractors (AGC, USA)	Modular courses (online and in-person)	CM-Lean credential	Lean fundamentals, production planning, collaboration, contractor-focused applications
Lean Construction Academy (LC Blog)	Multiple courses, recordings	Certification of completion	Various from LPS to IPD
LCI-UK	Face-to-face and remote delivery via approved training organisations	No formal certification; standards-based short courses	Foundation and advanced lean construction standards (8 foundation + 3 advanced modules)
Lean Construction Institute Ireland	Classroom-based delivery by registered trainers	White, Yellow, and Green Belt certification	Lean fundamentals, process improvement, collaborative planning

Table 1: Examples of certified training programmes (continued)

Program / Provider	Delivery Mode / Format	Certification system	Topics covered
German Lean Construction Academy (VDI 2553)	Part-time in-person training with applied project work	Certified Lean Construction Expert (VDI 2553)	Lean methods, project implementation, alignment with engineering standards

Please note, this list is not exhaustive. Source: https://leanconstruction.org/lean-certifications/lean-construction-certification-lci-cpc/; https://leanconstruction.org.uk/training-standards/; https://leanconstructionireland.ie/courses/; https://academy.leanconstructionblog.com/; https://www.lean-construction-akademie-deutschland.de/en/

IN-HOUSE

A few companies have developed these capability-building programmes in-house. Examples include Martinez et al. (2024) reported on a multinational construction service provider that designed and implemented a training programme aimed at fostering a broader and sustainable integration of LC practices within the organisation. The authors noted that the development of the programme involved three distinct phases: identifying requirements, developing the training content, and implementing the programme. Evidence from various Lean implementations undertaken by participants after the training demonstrated several benefits, including reduced process lead times, increased production capacity, and enhanced communication efficiency. While the authors did not explicitly report improvements in organisational capability, it is reasonable to infer that such gains were achieved. Similarly, Leicht et al. (2025) presented a case study demonstrating that structured, intentional training programmes targeting field crews and leadership offer a unique leverage point for fostering a sustainable Lean culture. By emphasizing both methods and principles, the example from a US based framing and drywall contractor illustrates an approach that balances standardization with flexibility, empowering teams to apply Lean practice effectively across diverse projects and challenges. Another example is from DPR, where Hackler et al. (2019) presented an analysis of a Lean Leadership training program initiated by the company with its aim to disseminate Lean throughout the company. The results were highly encouraging. The capability program, delivered through training, empowers employees across various business units to understand the company's vision and work collaboratively toward achieving it. Additionally, the training equips participants with the knowledge to analyse, question, collaborate, and redesign processes, thereby improving the flow of information and work across the entire value stream (Hackler et al., 2019).

METHOD

Case study research is a well-established and commonly used method in LC research. As Yin (2018) noted 'how' questions are explanatory and likely to lead to the use of a case study as the preferred research method. Given this study investigates how an Australian industry body develops lean competencies for the industry which deals with the reflection of its process over time, rather than mere frequencies or incidence (Yin, 2018), this paper adopts a case study approach. Another key reason is that the author has been directly involved in the establishment and ongoing development of the Lean Building Capability Programme for the past two years. This allows the direct observations and participant observation (Yin, 2018) two of the six source of evidence in doing case study research possible. As such, the study also serves as a reflective account of the author's practical engagement with the programme. The data collected also include the inputs from the taskforce members who are acknowledged at the last of the paper.

The findings showed how the Building Lean Capability Programme evolved across different stages.

CASE STUDY

BACKGROUND

Lean Construction Australia and New Zealand (hereafter LCANZ) is an emerging peak body for lean construction in the region, and one of its value propositions is to play a key role in strengthening the industry's capability and knowledge base. LCANZ has no affiliation with USA's LCI but is considered as its counterparts in the region. Although the role of building industry's lean capability was not explicitly defined at its inception, it was formally acknowledged during the LCANZ 2023 annual retreat in Brisbane, where 'building capability' emerged as one of four strategic initiatives. This case study examines how LCANZ has operationalised this strategic intent through knowledge development, stakeholder engagement, and experimentation with new training formats, ultimately moving toward a structured framework for capability building.

STRATEGIC FOCUS (2023–2024)

During 2023–2024, a taskforce called Building Lean Capability was established, comprising representatives from contractors, government, consultants, and academia. The taskforce was chaired by Phil Hendy (from the contractor side at the time). The taskforce meets regularly at a point even weekly. Early conversation was to answer the who, what, why, and how questions and to explore a delivery framework.

- *Who* are we building capability for?
- *What* competencies are essential for meaningful lean adoption?
- *How* should knowledge be structured or delivered?
- *Why* do organisations struggle to embed lean practices?

A significant part of this period was dedicated to assessing whether LCANZ required an overarching framework to guide capability-building activities. These conversations provided a foundation for an emerging conceptual model tailored to the needs of the Australian and New Zealand construction context.

Stakeholder Analysis

LCANZ also conducted a detailed stakeholder analysis to map the interests, expectations, and constraints of key groups, including contractors, subcontractors, consultants, clients, academics, training providers, industry bodies. Several stakeholder categories were identified, namely oversight, promoters, users, checkers, deliverers, and SMEs. The roles of these stakeholders were clearly defined, and members were assigned to each category to ensure regular and structured engagement. The analysis revealed several recurring issues: (1) inconsistent understanding of Lean principles; (2) limited organisational capacity to support behavioural change; and (3) a lack of accessible and contextualised training resources. These findings directly informed the design and focus of LCANZ's subsequent capability-building initiatives. Interestingly, after two years, the taskforce revisited this stakeholder analysis and conducted a remapping exercise, recognising that many organisations and their employees are potential participants who could benefit from the capability-building programme.

Body of Knowledge (BOK)

In parallel, efforts were made to establish a body of knowledge (BoK) for lean construction to underpin the capability-building exercise. Two alternative BoK models emerged from the

taskforce. The first model, proposed by an industry taskforce member, conceptualises lean construction as a set of building blocks. This model is structured around core lean principles and adopts a hierarchical fashion, with tools and techniques positioned at the upper levels, supported by more fundamental principles beneath (see the modules as per https://www.leanconstructionanz.org/building-capability-modules/). The second BoK model was developed by an academic member of the taskforce (see Figure 2). This framework draws on the foundational concepts of lean construction and incorporates elements of the LCI's LC Triangle, comprising the commercial, organisational, and operating system dimensions. Given the applied nature of the framework and the requirement to align capability development with discrete lean elements, the taskforce deliberately prioritised practical applicability over conceptual completeness. Establishing such a BoK was considered essential for ensuring conceptual coherence, guiding curriculum design, and supporting consistent capability assessment across participants.

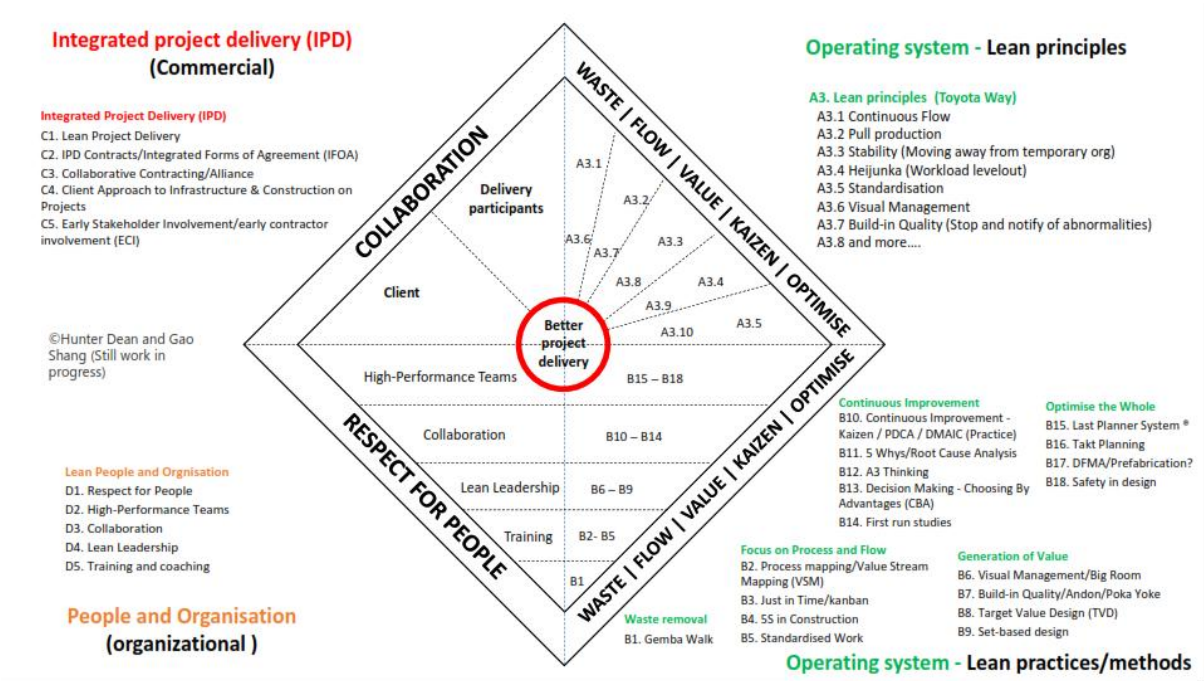

Figure 1: The proposed body of knowledge for LC - one of the alternatives.

ISO18404 and Competency

The taskforce recognises ISO 18404 as an international standard for lean (and six sigma), which can be positioned as a model for lean transformation and organisational improvement as noted by Ebbs and Ward (2024) . Accordingly, the taskforce devoted considerable attention to ISO 18404 during programme development. The standard specifies 18 Lean competencies (ISO18404: 2015). To inform discussion and interpretation, two consultants with prior experience in ISO 18404 were invited to participate in the taskforce. One of these consultants was formally qualified to assess and sign off competencies in accordance with the standard. Taskforce discussions highlighted that ISO 18404 defines *generic* lean practitioner and expert competencies that are intentionally sector-agnostic. Consequently, a key challenge was determining how these *competencies* could be meaningfully interpreted and contextualised for Lean Construction. This required identifying construction-specific lean practices, such as the Last Planner System (LPS), and aligning the training content accordingly. It was also recognised that the ISO 18404 Lean Expert qualification represents a very high benchmark, extending well beyond proficiency in individual tools such as LPS. Despite recognising the value of ISO 18404 as a reference framework, the taskforce also noted that limited availability

of certified assessors within the construction sector constrained its immediate applicability as a formal certification pathway. As a result, ISO 18404 was adopted as a strategic "true north", providing inspiration and directional guidance for capability development, rather than as a basis for claiming formal certification of LCANZ training materials.

THE TRAIL (2024)

A key milestone in LCANZ's capability-building journey occurred at the IGLC2024 Conference in Auckland. LCANZ designed and delivered a three-hour workshop combining:

- an introductory session on lean principles, and
- a practical training session on the Last Planner System.

This initiative was jointly facilitated by Paul Ebbs (UK) and Robert Hales (NZ), whose collaboration demonstrated the value of practitioner-led training grounded in real-world experience. The workshop turns out to be quite successful as reflected in the plus/delta session. Quoting a few below: Strong industry appetite for practical, interactive learning, etc. In addition, the instructor mapped the introductory module against the ISO 18404 competencies and identified several competencies that were addressed through the workshop, including: 2.1.1 non-value-added (waste, Muda); 2.2 Understanding the value stream; 3.1 Communication skills; 8 Team based process improvement; 9 Implementing Lean; and 13 Motivating others.

EXPANSION OF EDUCATIONAL INITIATIVES (2025)

After the successful trial of the introduction to lean construction workshop, and in response to industry feedback and capability gaps identified through the taskforce meetings, LCANZ launched a series of new modules in 2025 aimed at strengthening foundational and core lean competencies. Table 2 presents these training modules. It is worth noting that they are structured based on the body of knowledge framework discussed in the earlier section.

Table 2: Training modules developed by LCANZ Building capability programe

Levels	Modules		
Advance	Policy deployment (Module 13)	Procuring for system change (Module 14)	Decision making (Module 15)
Optimise	Lean Design Tagert Value Design (Module 5) Lean and BIM (Module 6) Modular Construction (Module 7)	System Design Value Stream Mapping (Module 8) Automation and Technology (Module 9)	Just in Time Pull Production (Module 10) Takt Time (Module 11) Stabilise operations (Module 12)
Core	Big Room (Module 2) *Establish a visual management big room, routines and behaviours as a foundation to drive improvement.*	Last Planner System (Module 3) *Improve production reliability for better time and cost outcomes through collaborative planning*	Practical Problem Solving (Module 4) *Provide teams a collaborative and structured approach to solve problems*
Foundation	Introduction to lean Construction (Module 1) *Your first step in becoming a Lean practionioner! Learn about Lean Principals, tools and techniques, and how they can be used to lead continuous improvement. Then plan out your next steps.*		

These offerings reflect LCANZ's shift toward a more structured, intentional role in building up the lean capability. Throughout 2025, significant progress was made in developing the training curriculum, with six modules completed or under development out of a planned total of fourteen. These completed modules include the introductory and core Lean Construction (Last planner,

big room, and practical problem solving) topics, and more advanced and specialised modules remain in development. In terms of delivery, five Introductory Lean Construction (module 1) workshops were successfully delivered across Auckland, Melbourne, and Brisbane. It is worth noting that the Brisbane workshops were conducted exclusively for a large government client, reflecting strong industry support. Participants represented a diverse audience, including students, construction professionals, and public-sector staff. In addition, a core module on practical problem solving was also delivered once in Brisbane. However, some planned training sessions were cancelled due to insufficient enrolments, highlighting ongoing challenges in demand consistency. Instructor capability was also strengthened during the year. An instructor introduction session led in September 2025 attracted more than ten prospective instructors, resulting in six registered instructors across New Zealand and multiple Australian states. To support programme quality and consistency, a Governance and Delivery Framework was developed, reviewed by the taskforce, and formally endorsed by the LCANZ Board.

WEBSITE

After two years of the Building Capability Programme, a dedicated website for the programme was launched. Figure 2 illustrates the overall process for onboarding students to support capability development. The programme adopts a combination of push- and pull-mechanisms to facilitate learning and engagement. It starts with the introduction of lean construction workshop, followed by learn and improve, and share and celebrate.

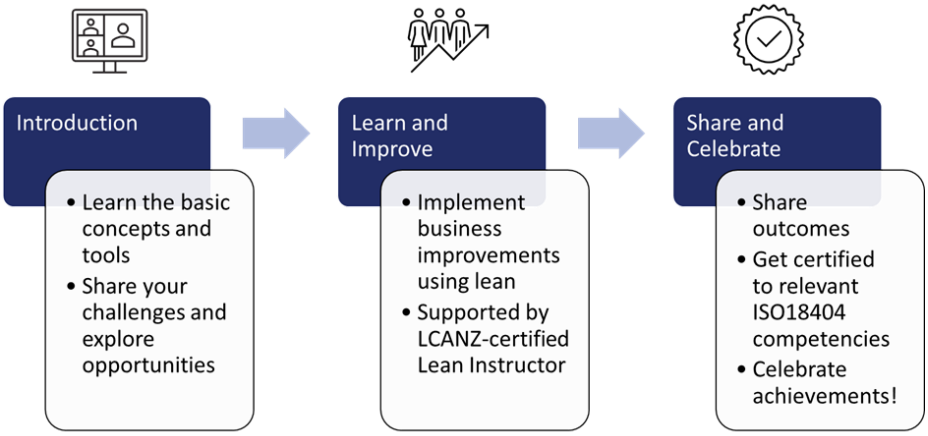

Figure 2: The process

DISCUSSIONS

BALANCING PUSH AND PULL

In reflecting the delivery model for this programme, the taskforce had debate about classroom teaching focus vs coaching focus which aligns with the pull and push thinking. In this context, *push* refers to the proactive offering of training modules to learners who wish to strengthen their capabilities in LC. *Pull*, by contrast, occurs when learners encounter specific issues or challenges in their projects or workplaces and actively seek support from domain experts (i.e. instructors) through coaching, mentoring, and targeted learning. The taskforce reached a consensus on the importance of balancing push- and pull-based mechanisms in industry capability development. The results of the push–pull mechanisms are yet to be seen, as the programme is still in its early stages of rollout and is gradually gaining industry awareness. To date, there have been limited requests for follow-up coaching and mentoring after the classroom sessions. The balance of push and pull thinking was also applied in the development of training modules. Instead of developing the full suite of modules upfront, the taskforce responds to

students' interests (if any) by prioritising the modules they demand, after which module owners begin developing the corresponding materials. But for the core modules, it was developed by capable lean trainers in the first place. Regardless of the approach, LCANZ's role as a knowledge provider supports the dissemination of structured learning pathways, while its close engagement with industry demand helps ensure relevance, responsiveness, and uptake.

ISO18404 AS A GUIDE

The most distinctive feature of the LCANZ building capability programme is its focus on the Lean aspect of ISO 18404, deliberately excluding the Six Sigma component. Unlike LCI's Certified Professional-Construction which, despite offering e-learning modules and exams, are not linked to ISO 18404, LCANZ used the standard as an aspirational framework from the beginning. The Six Sigma component was excluded because it is not widely recognised in the local construction industry and is often perceived as a manufacturing-oriented concept. As ISO 18404 was adopted as an aspirational framework, its terminology has been consistently applied. The modules developed by LCANZ instructors are designed, at a minimum, to equip participants with foundational lean knowledge, aligning with the definition of *competencies*. For future module development, each module owner is required to demonstrate that the learning objectives and content are aligned with the relevant lean competencies. To reiterate, capability is understood as 'how well can you adapt and perform'. Therefore, participants are expected not only to acquire knowledge but also to apply it in real contexts and document the outcomes achieved. This was inspired by the UK-LCI. This process evidences their capability to implement lean practices in the workplace.

CERTIFY OR NOT CERTIFY

LCANZ ultimately decided not to pursue formal certification at this stage. This decision was informed by two primary considerations. First, a clear distinction exists between LC practice and lean competency certification; the latter requires a highly formalised, standardised, and assessable capability framework. Second, there is currently a limited pool of suitably qualified assessors capable of delivering credible certification. More broadly, the Australian construction industry has not yet reached the level of maturity necessary to support certification schemes at scale. Nevertheless, LCANZ continues to emphasise capability development as a core objective. Participants who complete LCANZ training programmes are therefore awarded a certificate of participation, recognising engagement and learning without overstating formal competency. Looking ahead, LCANZ anticipates that, as industry maturity increases, Australian organisations, similar to firms such as Balfour Beatty in the UK, may emerge and pursue formal certification under standards such as ISO 18404.

Overall, the decision not to pursue certification reflects a pragmatic assessment of industry readiness and institutional capacity. While standards such as ISO 18404 provide an important reference point, this case illustrates how certification frameworks may outpace both assessor availability and organisational preparedness in certain contexts. Treating ISO 18404 as a strategic "true north," rather than an immediate endpoint, enables capability development to progress in a credible and contextually appropriate manner. This finding contributes to ongoing debates concerning certification versus capability development in lean construction.

PEOPLE

It is often argued that people are at the core of Lean implementation. Likewise, people play a critical role in driving and developing the Building Capability Programme. A committed taskforce is essential to undertake the behind-the-scenes work, one that not only understands Lean principles but also knows how to operationalise them in practice. It is fortunate that the taskforce comprises a diverse group of participants who are both passionate and committed, arguably the most critical factor for its success. However, as the programme is delivered across

multiple states, LCANZ is currently in the process of recruiting additional instructors. A key limitation is that the availability and expertise of local instructors largely determine the content that can be delivered. At this stage, the taskforce has not opted for online delivery to access international instructors. As a result, recruiting suitable instructors remains challenging, reflecting the limited pool of experienced Lean practitioners with both technical expertise and teaching capability. In addition, the programme relies on active participation from learners, largely drawn from key stakeholder groups. As noted earlier, multiple cancellations of scheduled training sessions signaled weak demand. This appears to be a common challenge for industry bodies—attracting participants, many of whom cite time constraints. Despite this, the taskforce continued to meet on a bi-weekly basis to address the issue. One potential pathway forward is to collaborate with other local industry bodies to cross-pollinate the membership base.

CONCLUSION

This study presents how LCANZ as a strong advocate for lean construction in the region, has contributed to the development of an industry-level capability-building initiative for lean construction in Australia and New Zealand. Through strategic policy development, stakeholder mapping and engagement, experimentation with delivery approaches, and the adoption of a balanced push–pull framework, LCANZ is shaping a more coherent and contextually appropriate approach to lean capability development. The study contributes to lean construction capability development by extending discussions beyond organisational boundaries and offering empirical insights into industry-led transformation efforts. Practically, it provides guidance for industry bodies, professional associations, and policymakers seeking to strengthen lean adoption through scalable and credible capability-building initiatives, particularly in markets with uneven lean maturity. In terms of limitations, the Australian context may be unique, given the relatively small scale of the construction industry and the limited awareness of lean practices, which may reduce the motivation to invest in capability development. A 'wait-and-see' approach, often observed in the Australian context, may further constrain adoption. Comparative insights from other countries' building capability programs (i.e. LCI, UK-LCI, and GLCI) are unavailable, limiting cross-country comparison. The program itself, constrained by resources and capacity, has not fully realized its original objectives. Additionally, the taskforce lacks sufficient input from contractors and subcontractors, this reflects the relatively immature state of Lean Construction in Australia. In view of the challenges noted, this is not an easy undertaking and is certainly a journey. It requires a committed taskforce that ideally represents diverse voices from across the industry, with both practical experience and research expertise in lean. It has been a privilege to have such a taskforce from the outset to kick-start the initiative. Benchmarking with other lean construction peak bodies in different regions and exchanging insights is also valuable, as it brings fresh perspectives. The author remains hopeful that, over the long term, this initiative will benefit the Australian construction industry.

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