

“RESPECT FOR PEOPLE” AND LEAN CONSTRUCTION: HAS THE BOAT BEEN MISSED?

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ABSTRACT

The Toyota Production System (TPS) is the powerful engine that has rocketed the Toyota Motor Company from a backwater operation in a war-torn country to the largest automobile manufacturer in the world. Lean thinking (as TPS has come to be known outside of Toyota) has been successfully applied to industries from across the spectrum of products and services, from technology start-ups to healthcare providers.

The construction industry has also been lured in by the siren song of the benefits of a successful Lean implementation: more satisfied customers, greater profitability, and improved metrics across the board. But as the International Group for Lean Construction (IGLC) celebrates its 24th annual conference and declares the field to be "on the brink of revolution," the question arises: has the promise of Lean Construction been fully realized?

Toyota has long stressed that TPS stands on two pillars: Continuous Improvement, and Respect for People. The former brings with it the hoped-for results, but it is the latter that makes the former possible. Their motto is: "We make people before we make cars." Companies that have successfully implemented Lean consistently state that their achievements would not have been possible without sustained employee engagement and support at all levels of the organization.

Have Lean Construction enthusiasts grasped the importance of the Respect for People principle? Have they recognized the crucial nature of employee engagement? Based on the literature, the answer is no.

In this paper, I examine the dearth of focus on this topic in the field, examine case studies from other industries, and discuss what "Respect for People" could look like in light of the peculiarities of how Lean construction is currently practiced.

KEYWORDS

Respect for people, Toyota Production System (TPS), Lean Construction shortcomings, construction peculiarities, IGLC, literature review

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INTRODUCTION

The collection of principles, practices, and philosophies we have come to call “Lean” (Krafcik 1988) is essentially the management system developed at the Toyota Motor Company, genericized and abstracted out to be relevant to many different business environments beyond automobile manufacturing (Jones 2014). This makes sense, since the history of “Lean” is an attempt to achieve the same stellar results and operational excellence that Toyota has enjoyed over the course of decades. There have been attempts to bring Lean to areas as diverse as start-ups (Ries 2011), healthcare (Grabau 2012), software development (Poppendieck and Poppendieck 2003), accounting (Maskell et al. 2011), and of course construction (Alarcón 1997).

Yet despite the volumes published and the efforts expended, very few companies in construction (and for that matter, in any industry) have been able to achieve anything close to what Toyota has achieved. Spear and Bowen (1999) suggested that Toyota’s secrets lay at the sub-cellular level, but in truth it is not necessary to go that deep to begin to understand the shortcomings of would-be Lean enthusiasts.

In 2001, Toyota was expanding so rapidly and so globally that they felt they could no longer trust their oral tradition to ensure the spread of their values and management approach to new factories and offices. They created a document known as the “Toyota Way 2001,” to assist in this effort. In this document, Toyota described what it believed were the two pillars of the Toyota Way: Continuous Improvement and Respect for People (Miller 2008), as shown in Figure 1.



Figure 1: Two pillars of the Toyota Way, as expressed by Toyota: Continuous Improvement and Respect for People (Toyota Motor Corporation 2012)

Continuous Improvement (CI) is the headliner of Lean – how to use one of the many tools from the Lean toolbox to slash waste in the organization while creating more value. Nary has an “Introduction to Lean” workshop gone by without CI being heralded and its power to transform proclaimed. Respect for People (RfP), on the other hand, is the unsung of the two, typically meriting no more than perfunctory lip service before getting back to tales of inventories slashed and lead times quartered.

Yet we note from the diagram that RfP is depicted as no smaller than CI, and in truth it is no less important (Emiliani 2008). But the most important is neither the former nor the latter; it is the intersection portrayed on the graph; only the combination of CI and RfP allows the house of Lean to stand and achieve the heights desired.

Without Respect for People, Lean is only Continuous Improvement, which tends to focus very quickly on the technical side. Emiliani (2013) calls this approach “Fake Lean,” while Graban (2007) refers to this as “Lean As Misguidedly Executed” (or “Lean As Mistakenly Explained”, both sharing the acronym L.A.M.E.). Both of these pejorative monikers describe the situation in which management pursues a strategy of CI without including RfP, with results that are short-lived and grate upon the workforce.

The rest of this paper seeks to answer the following questions: given the importance of Respect for People, what can be said about the attention this principle has received among Lean Construction proponents? What are the barriers that could prevent RfP being more fully implemented in construction companies? And what exactly does “Respect for People” mean in the context of Lean?

LEAN CONSTRUCTION AND RESPECT FOR PEOPLE

Given the centrality of RfP as explained by Toyota, to what extent has the Lean Construction community in general and the International Group of Lean Construction in particular given it attention? It appears that the answer is “not much.” A search of the IGLC proceedings² reveals only seventeen papers that use the phrase “respect for people” or “culture of respect”³ (see Table 1), opposed to 451 papers dealing with “continuous improvement.” The Journal of Lean Construction shows a similar disparity: no mention of “respect for people” versus 33 papers that touch upon CI.

A thorough reading of each of the papers that mention the concept reveals that they neither delve deeply into RfP as defined by Toyota nor connect the concept to Lean Construction. The articles were according to a few repeated treatments observed in the literature (see Table 1).

Some of the papers had only a passing reference to RfP; these were coded “PR”.

In many of the references to RfP, the context suggests that “Respect for People” was used in a broad sense of “treating people fairly” and “creating working environments in which their lives are not threatened.” While jobsite safety and not demeaning people are of course necessary conditions for RfP, this colloquial usage is not what is meant by Toyota when they use the term. Just as other Lean concepts like “waste” and “value” have very specific definitions in a Lean setting, Respect for People is not a catch-all feel-good phrase. It has meaning (discussed in the next section) and it has a purpose (Womack 2007). This was coded “CU” for colloquial usage of the term “respect.”

Some of the papers did come closer to the Toyota-inspired true meaning RfP, though they failed to connect RfP to Lean Construction in a meaningful way. These were coded “NLC” for “no connection to Lean Construction.”

² e.g. [http://google.com/search?q=site%3Aiglc.net%2FPapers%20"respect%20for%20people"](http://google.com/search?q=site%3Aiglc.net%2FPapers%20) (accessed April 2016), which covers IGLCs 4 to 23, and the index and ToC of (Alarcón 1997), which contains the highlights of IGLCs 1-3 (a full-text search of the latter was unfortunately not practical).

³ An alternate phrasing, pioneered in the Rybkowski papers, which appears to refer to the same concept.

Despite the paucity of direct focus, there has been indirect attention given to the importance of RfP, as evidenced by the spread of two key Lean Construction tools: The Last Planner® System (LPS) (Ballard 2000) and Integrated Project Delivery (IPD) (American Institute of Architects 2007).

Table 1: References to “Respect for People” and/or “Culture of Respect” in IGLC Proceedings (paper subtitles have been omitted for brevity)

Year	Author(s)	Title	Code(s)
2004	Pasquire et al.	Off-Site Production	PR
2005	Orr	Lean Leadership in Construction	CU
2005	Pasquire et al.	What Should You Really Measure if You Want to Compare Prefabrication With Traditional Construction?	PR
2008	Court et al.	Modular Assembly in Healthcare Construction	CU
2012	Koskenvesa and Koskela	Ten Years of Last Planner in Finland	NLC
2012	Koskenvesa and Sahlstedt	What is Seen as the Best Practice of Site Management?	CU
2012	Mäki and Koskenvesa	An Examination of Safety Meetings on Construction Sites	NLC
2012	Pasquire	The 8th Flow	NLC
2012	Pekuri et al.	Applying Lean in Construction	NLC
2012	Rybkowski et al.	Survey Instrument to Facilitate Continuous Improvement of Lean Teaching Materials	CU, NLC
2013	Bettler and Lightner	Applied Leadership Model for Lean Construction	CU
2013	Rybkowski et al.	On the Back of a Cocktail Napkin	CU, NLC
2013	Tsao et al.	Teaching Lean Construction Perspectives on Theory and Practice	CU
2014	Hämäläinen et al.	Are Tools and Training Enough	CU, NLC
2014	Kpamma et al.	How Aligned Is the Competency-Based Training Model With the Lean Philosophy?	NLC
2014	Rybkowski and Kahler	Collective Kaizen and Standardization	NLC
2015	Nikolin et al.	A Call for New Research in the Lean Construction Community	CU

The success of LPS is likely due in part to its inherent combination of CI and RfP – the very act of involving subcontractors in the process of planning engages their mental skills and asks them to take an active part in improving the process of construction. Thus respect is being shown for their creative and cognitive abilities, which is key in fostering continuous improvement. IPD also highlights the importance of RfP, since it creates an

atmosphere where the interests of the collaborating parties are aligned. This allows for more investment of energy in finding solutions and improvements that are beneficial for the project. By creating a win-win atmosphere, respect is indeed being shown for all stakeholders: owner, design professionals, contractors.

WHAT IS “RESPECT FOR PEOPLE”?

Up to this point, I have skirted this central question: if the examples cited above are not true RfP, what *is* Respect for People, as defined in a Lean context? And how does it mesh with and reinforce CI?

The “secret sauce” of true Lean is not the use of tools to achieve short-term, point improvements (as impressive as they may be). Rather, it is creating an organizational culture and climate in which improvements to the work methods and processes (the way the work is done) are being made every single day, by every single member of the organization, in every area of the organization. This is what Maasaki Imai, the author of the seminal works *Kaizen* (1986) and *Gemba Kaizen* (2012), is attempting to convey in his definition of the word *kaizen*: “Everyday improvement, everybody improvement, everywhere improvement.” (Kaizen Institute India 2013). The most successful Lean organizations are not the ones with the largest “Kaizen Promotion Office” or the most elaborate Lean posters; true success comes from creating an organizational culture and organizational climate in which “improvement” is a daily responsibility for everyone.

For a 150-person company, this means 150 pairs of eyes actively looking for and capable of identifying wastes and the corresponding opportunities for improvement in the processes with which they are intimately familiar. It means 150 hearts knowing that their contributions will be respected and valued, and thus motivated to make those improvements; 150 brains puzzling out the wastes identified in order to develop countermeasures; and 150 pairs of hands to pick up the pieces if the planned countermeasure fails to work out and additional work is needed to improve further.

This is Respect for People as it relates to employees⁴: respecting the innate ability of every human being to identify waste and develop creative ways of improving. It means respecting their contributions and simultaneously challenging them to always be improving their problem-solving skills. It means asking people not only to put out fires but also to prevent future flare-ups from igniting. Giving them the time and resources to experiment with countermeasures, even if it means allowing the experiment to fail (albeit in a controlled manner). And it means providing the training and leadership necessary to both provide the skills to recognize waste and develop countermeasures that are in line with the company’s overall objectives.

⁴ RfP in its fullest sense relates to five groups of organizational “stakeholders” in the organization: employees, owners (shareholders), customers, suppliers, and the greater community in which the organization operates. Typically companies do not suffer from a lack of respect for shareholders’ interests, and much of Lean is about bringing customers to the fore. Suppliers are in many ways similar to employees as relates to RfP, though typical Lean implementations will begin “in-house” before expanding out to suppliers. For all these reasons, I have chosen to focus on employees for the bulk of this paper.

When understood in this fashion, it becomes clear why RfP is crucial to long-term Lean success: Continuous Improvement that is truly continuous and ongoing can only survive in an atmosphere where RfP is being practiced. RfP creates the fertile ground that allows CI to flourish (Liker 2011). Companies that see the true potential of Lean are those that are constantly investing in the problem solving abilities of their workforce at all levels and that make time for “Daily Kaizen” (Miller et al. 2014), thereby challenging them not only do their jobs but also be responsible for improving them (Rother 2010b).

Rother (2010a) goes so far as to claim that Lean tools are in fact no more than structured frameworks for developing people and improving their problem solving capability. Ballé and Ballé (2005, 2009, 2014) repeatedly show how a true Lean implementation is more about growing people than throwing out all the inventory in the organization or finding a few point examples of waste to remove with fanfare.

Paul Akers, the founder and president of FastCap, relates how the message of RfP finally hit home for him (Akers 2011). His company was a number of years into their Lean journey, and they had made great strides. But Akers felt that whenever he was not physically present to push the improvements along, the company made no progress. During one of his study missions to Japan, he had the opportunity to meet a VP from Lexus. Akers asked the executive to tell him what the most important thing was for Toyota. The response he received echoed the quote from the abstract of this paper: “Our number one concern is how to build our people and how to build a culture of continuous improvement.” Reinvigorated, Akers returned home to introduce RfP to a company that had been steeped only in CI up to that point. Today, FastCap employees spend the first hour of every day of work making improvements. Akers asks that they make no more than a two-second improvement each day, since he knows that it is consistency of improvement that will over time lead to a competitive advantage (*kaizen*), not a few “home runs” hit intermittently (*kaikaku*). The second hour of each day is also spent in developing people, with an all-hands stand-up meeting to review the core values and metrics as well as share improvement ideas. When other business leaders are aghast to find that two hours of every day are spent in apparently non-productive work, Akers responds: “In only six hours, my people can outperform anyone else working eight but not taking the time to improve.”

Akers is a shining exemplar, but the theme of harnessing the creative power of all employees through RfP runs through all the stories of the most successful Lean implementations.

BARRIERS TO IMPLEMENTATION IN CONSTRUCTION

The fact that the marked majority of all Lean implementations (in construction and beyond) do not succeed suggests that there are barriers to successful implementation of RfP that are not specific to construction. They include being overly enamoured with CI as well as not fully understanding RfP and/or underestimating its importance to the long-term success of Lean (Emiliani 2008).

Beyond those initial barriers, we can consider difficulties that are specific to construction, which will additionally need to be overcome for the enlightened Lean

Construction implementer. The subject of “construction peculiarities” has received much attention, with Vrijhoef and Koskela (2005) identifying three main peculiarities at the level of construction projects: site production, temporary organization, and one-of-a-kind product.

Of these, only the second is a potential barrier to RfP in Lean Construction, since the temporary nature of each project tends to cause the parties to focus on short-term outcomes and seek to optimize at the level of the project. Site production and one-of-a-kind product do not offer the same challenge, since they do not assume the same level of worker transience. As Liker (2004) has identified, the first of fourteen principles that guide the Toyota Way is “Base your management decisions on a long-term philosophy, even at the expense of short-term financial goals.” For no other area is this more relevant than RfP; making an investment into developing people and their problem solving skills requires the organizational self-discipline to maintain a degree of focus beyond the event horizon at the outer bounds of the current project. In addition, since subcontractors who are not directly employed by the GC perform the vast majority of actual work on the building, it will be an uphill battle to make the case (business or otherwise) for developing the same front-line workers who will be gone soon after their contribution to the project is complete.

WAYS FORWARD

Given the barriers identified, is there any hope for RfP in Lean Construction? Is there any light at the end of the tunnel?

First, as with any Lean implementation in any company in any industry, Lean aspirants in construction companies must begin the work within their own four walls. Even the smallest AEC company can teach all of its people to see waste and develop countermeasures to address it, while empowering them to make changes in the work processes. As Maasaki Imai pointed out in his quote above, the goal is to have everyone in the company, everywhere, making improvements every day. As Akers has shown, these need not be grandiose changes every day; an improvement by each person that shaves no more than two seconds off a process will suffice, as long as one is made every single day.

For those not yet ready to commit two hours a day for every employee, an employee suggestion program may be a more viable first step (Tozawa and Bodek 2001) . The emphases in making a program of this sort a success, and one that will reinforce RfP and CI, are small-scale changes, ones within the employee's sphere of influence, that does not necessarily require large capital outlays, for which approval to begin a trial can be rapidly granted, and that the employee is directly involved in trying out. More important than establishing financial objectives for the program is aiming to get everyone contributing, with coaching by direct managers as necessary (and not using coercion by any means). The opposite scenario, in which suggestions are placed in a locked box, reviewed infrequently by management, and implemented by a third party (typically an engineering or maintenance function), is not RfP and thus will not reinforce Lean efforts.

Tidhar Construction, a small-to-medium construction company located in Israel, has experimented with an in-house employee suggestion system, after their CEO went on a similar Lean study tour to Japan and was inspired by seeing the suggestions that had been implemented by front-line employees, as explained to the visiting group by those same employees. In the four years the program has been active, they have generated over 800 suggestions. Thus an initiative of this sort is entirely possible for a construction company.

At the same time, only so much can be done in-house (though it is possible to do quite a lot over the course of years as people grow and develop). A lot of waste may be “locked in” at the design phase, and therefore any company that only is involved with executing plans developed by others may be limited. Likewise, for GCs, their ability to impact the work methods of the subcontractors who actually perform the work may be limited. Thus a typical progression, once Lean has started to become “the way things are done” within the company, is to start reaching out to key suppliers (and in construction, subcontractors are key suppliers) and beginning to work with them to teach some of what has been learned and begin implementing in order to find mutually beneficial improvements.

Another tack entirely would be to work through local trade unions, spreading Lean thinking and Lean training horizontally through the local industry. This is what has been done in Denmark; the Federation of Building, Construction and Wood Workers Unions has embraced Lean Construction, seeking to make it the industry standard (Koch 2007). In this way, Lean understanding can diffuse horizontally rather than requiring one company to invest in what are perceived as “here-today, gone-tomorrow” subcontractors.

CONCLUSIONS

Lean neophytes do not always see how the sort of small improvements that mark RfP (particularly when they are no more than two-second improvements) can lead to the significant bottom-line improvements that Lean promises. But by building culture where every person, every day, is making a two-second improvement, larger improvements are inevitable, since people will be turned on, motivated, and experienced in problem solving by the time larger opportunities present themselves. This is Collin’s “turning the flywheel” (Collins 2001) writ both on the micro (two-second inputs each time) and macro (getting to a pace of improvement that allows the organization to outpace their competition). Byrne (2013) explains how small improvements in reducing setup time (SMED) are actually a strategic move for the company: by reducing the time required to change over from one product to another (setup), it is possible to reduce the batch size of the products being produced. A reduction in batch size means that the lead-time of any given product is reduced. Thus the company will be able to respond more quickly to customer requests and changes in demand than their competitors, and gain more market share as a result. This is the essence of *kaizen*: small changes that are made consistently, accumulating over time to lead to big improvements.

In the construction sphere, despite the peculiar barriers present in the industry, it is also possible to gain a competitive edge from the sustained application of CI. But this can only happen when RfP is present, so the two must be implemented together if either is to

survive. Emiliani (2015) has suggested that Respect for People is a practice that defies simple verbal definition; it must be implemented in order to have its full effect.

For researchers in the field of Lean Construction, research questions going forward include: how can Lean Construction implementations more fully utilize RfP, and what are the impacts of doing so successfully? How can construction companies overcome the limitations imposed by temporary organizations and the subcontracting model in the quest to return this second pillar to its full importance? How can construction companies make the investment in daily kaizen, given the fast pace and high-stress nature of the industry, and will they reap the same returns that other have been experienced by other companies in other industries? To what extent are the successes of LPS and IPD due to their inherent involvement of RfP?

And finally, is it possible to disprove the central claim of this paper, namely, that without RfP, CI-focused Lean Construction implementations are inherently limited in what they can achieve?

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