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RESPECT FOR PEOPLE AND LEAN CONSTRUCTION: GOOD PRACTICES, BENEFITS AND BARRIERS

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ABSTRACT

Respect for People (RFP) is a crucial element in Lean Construction philosophy, along with continuous improvement. However, despite its importance, research on RFP is still limited. Therefore, the following article aims to identify good practices, benefits, and barriers generated by its implementation on the construction site. The research begins with a literature review, following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) criteria. Subsequently, with the list of good practices, benefits, and barriers, nine lean experts were interviewed, validating the information obtained from the literature review. This process identified eleven good practices, eleven benefits of implementing RFP in construction projects, and nine barriers. The upcoming research will serve as a valuable contribution for professionals seeking to implement good practices of RFP on the construction site and researchers aiming to delve deeper into this concept.

KEYWORDS

Respect for People, Lean Construction, benefits, barriers, good practices

INTRODUCTION

The construction sector stands out as one of the most relevant economic sectors globally (Sarmiento-Rojas et al., 2020), employing many individuals in its diverse activities. Despite its importance, construction faces several challenges, such as lack of productivity (Barbosa et al., 2017 and Del Savio et al., 2022), inadequate planning in work (Gomez & Morales, 2016), limited collaboration, fragmentation of the supply chain (Schöttle et al., 2014), environmental impact (UNEP, 2022). These problems are primarily related to people in construction projects. Since people play a crucial role in the construction industry's success (e.g., workers and managers), strategies to improve the construction industry should consider people and try to understand the role of people involved in construction projects (Golzad et al., 2023).

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Within the Toyota Production System (TPS), there are two fundamental pillars: continuous improvement and Respect for People (RFP), as highlighted by Miller (2017). Therefore, in the context of Lean philosophy, people play a crucial role, as it acknowledges that the success of any system or process depends significantly on the commitment, motivation, and respect for the individuals who comprise it. Thus, it promotes a work environment that values and respects individual contributions, fostering collaboration, innovation, and personal and organizational growth.

Despite its importance in Lean Construction, literature regarding RFP is scarce. Korb (2016) conducted a literature review and defined the concept of RFP based on various perspectives, examining barriers to developing this principle and analyzing ways to cultivate RFP in lean construction implementation. His research revealed a significant disparity in the number of papers dedicated to RFP compared to those focused on continuous improvement. Specifically, only 33 papers related to RFP were found, while 451 papers were identified on continuous improvement in the International Group for Lean Construction (IGLC). Current results obtained from a quick review in Scopus conducted by the authors confirm the trend observed previously by Korb. Only 166 papers on RFP and a culture of respect were identified, compared to 19,905 papers on continuous improvement. This significant difference in the number of publications again underscores the lack of attention and study dedicated to RFP compared to continuous improvement in Lean Construction. These findings highlight the need for further research and recognition of the importance of RFP in successfully implementing Lean Construction.

Therefore, the following research aims to delve into the concept of RFP in the context of Lean Construction. A comprehensive literature review identified a list of good practices, barriers, and associated benefits concerning people in construction projects. Subsequently, this information was validated and supplemented through interviews conducted with nine experts in the field. This paper aims to generate guidelines or good practices that can be effectively applied in various construction projects. Additionally, it seeks to identify the barriers and benefits associated with implementing RFP in terms of the professionals' perceptions and the obstacles that could hinder its full implementation on the construction site. This research aims to enrich the understanding of the concept of RFP in Lean Construction and provide practical tools for its successful application in the construction industry.

BACKGROUND

RESPECT FOR PEOPLE AND LEAN PRODUCTION

In the 1950s, the TPS laid the foundation for Lean Manufacturing, focusing on waste elimination and continuous improvement. The first pillar of TPS, continuous improvement, enables the expected results to be achieved; however, the second pillar, RFP, makes the former possible in the first place, considering Toyota's statement: "We make people before we make cars" (Korb, 2016).

Liker (2004) highlights RFP as critical for achieving operational excellence and sustainable efficiency. On the other hand, Womack and Jones (1997) emphasize how RFP is integrated into the Lean organizational culture, recognizing the importance of each individual in the production process. Finally, Rother (2009) mentions that lean tools are structured frameworks with the fundamental objective of developing and improving people's problem-solving capabilities. Together, these authors offer an in-depth view of the early history of Lean, revealing how the harmonious interaction between efficiency and RFP shaped a philosophy that transcends manufacturing to impact various sectors positively.

According to Ljungblom and Lennerfors (2021), RFP is understood as consideration and respect for individuals, emphasizing developing their capabilities in a positive, not necessarily emotional, atmosphere. On the other hand, key topics related to RFP include teamwork,

personal development, motivation, problem-solving capacity development, waste elimination, and safety (Coetzee et al., 2019). Additionally, teamwork helps improve construction safety (Yin et al., 2023). Teamwork is about collaborating in an organized way to achieve a common goal. This involves understanding the interdependencies among team members and making the most of them (Cardona et al., 2006).

RESPECT FOR PEOPLE AND LEAN CONSTRUCTION

Korb (2016) emphasizes that RFP in Lean Construction goes beyond treating people fairly and safely, focusing on actively engaging employees in identifying waste and improvement opportunities. Furthermore, it is highlighted that RFP is crucial for the success of Lean Construction, as it enables continuous improvement and sustained employee engagement at all levels of the organization. This approach involves empowering people to identify improvement opportunities and value their contributions. Additionally, Filho et al. (2018) conducted a study on RFP from the meditation perspective, confirming the feasibility of its implementation because workers agreed that meditation valued it and recommended its implementation in other projects. Furthermore, they concluded that the company was building people before houses with these actions, thus demonstrating RFP.

Furthermore, other authors have explored the concept of RFP, relating it to psychological safety. In this regard, Gomez et al. (2019) analyze psychological safety in a construction project to create a safer environment that promotes RFP; Gomez et al. (2020) explore psychological safety and how it fosters a better working environment and RFP, allowing individuals to feel free to voice their opinions and participate more actively in the project; Demirkesen et al. (2021) demonstrate that construction workers feel more psychologically safe and respected in projects implementing Lean Construction.

In this context, the authors conceive respect for people as crucial. They recognize the importance of each individual in the development of the Lean construction project and value their skills, knowledge, and contributions. This focus on respect promotes a more positive work environment and stimulates collaboration and innovation in the workplace.

RESEARCH METHOD

Figure 1 illustrates the two phases of the research development. In the first phase, a literature review on RFP in construction was conducted to extract a list of good practices, benefits, and barriers. In the second phase, nine semi-structured interviews were conducted with expert professionals to validate the lists found in the literature and gather their professional experience regarding RFP.

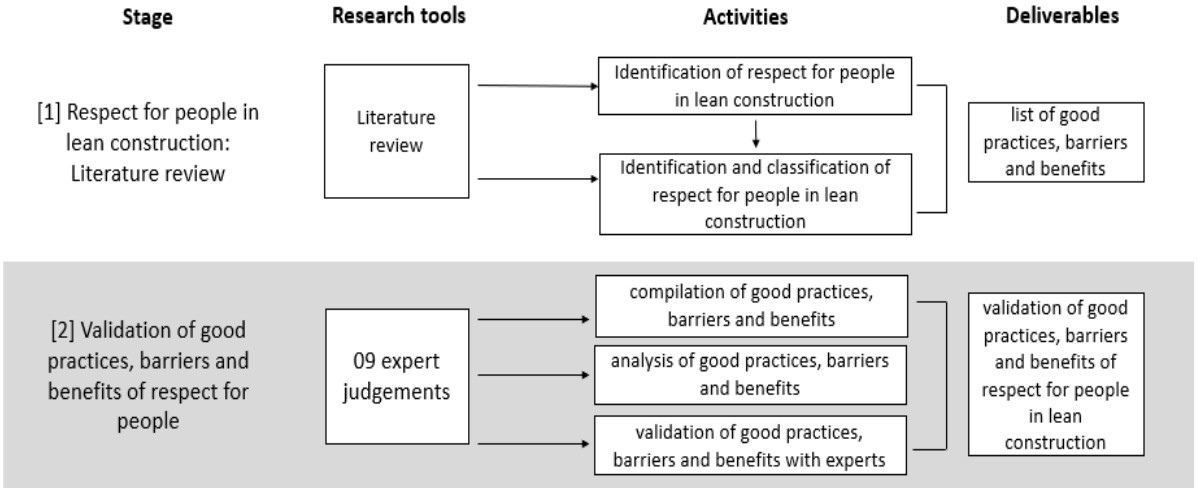

Figure 1: Research Stages

FIRST STAGE: PRISMA REVIEW

A literature review was conducted to identify and select the articles evaluated in this study, following each step of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) methodology. For the literature review, a search was conducted in the IGLC database and Scopus for "Lean Construction" and "RFP" publications. Scopus is one of the databases with a broader domain in construction research compared to others (Galaz-Delgado et al., 2021), and the IGLC database hosts most publications on the application of Lean Construction worldwide (Daniel et al., 2015). For the Scopus database, the keywords used for the search were "Respect for People" AND "lean construction," and for the IGLC database, it was "Respect for People." No publication year filter was applied, resulting in 22 articles.

Nine duplicate publications were removed for the eligibility phase, leaving 13 papers. Subsequently, it was reviewed whether articles that did not refer to RFP in Lean Construction should be excluded. In this phase, all articles referenced the evaluated item, so there were no exclusions. In total, 13 articles were considered for the research.

SECOND STAGE: QUALITATIVE STUDY

The qualitative research approach examines variables such as experience, attitudes, behavioral aspects, and participants' opinions in the data collection process (McCusker & Gunaydin, 2015). This method is suited for gathering human opinions and knowledge on a subject from different perspectives (Malterud, 2016).

It has been previously used with topics related to Lean Construction, for example, to identify the positive impacts and challenges of LPS in Brazilian companies (Viana et al., 2010) and to identify tools and facilitators for lean adoption (Marhani et al., 2018). Moreover, qualitative studies have been used for issues related to people, in the construction sector. For example, Demirkensen et al. (2021) conducted a study to evaluate the influence of psychological safety in the USA using qualitative studies to identify the relationship between the principles of Lean Construction in the context of safety. Similarly, in Chile, Paez et al. (2024) employed the qualitative study with the objective of analyzing the perceptions of experts related to emotional intelligence in the construction sector, using interviews with 11 Chilean professionals.

Given the scarcity of research on the topic of respect for people within Lean Construction, this study aims to serve as a foundational piece for future investigations. By identifying good practices, barriers, and benefits associated with respect in Lean Construction, it endeavors to pave the way for further exploration into this important aspect.

Therefore, expert judgments were used due to the need to obtain insights and specialized perspectives in the field of Lean Construction and respect for people in this discipline. For this stage, 15 experts were initially contacted, following the snowball criteria; however, only 9 of them agreed to the interview, Table 1 describes the profile of the interviewees.

For the selection of the experts, a careful process was carried out in which professionals and academics with extensive experience and knowledge in Lean Construction were identified. Experts with a minimum experience of 10 years in the Lean philosophy were considered, as well as in issues related to respect for people in work environments. Geographic and professional experience diversity was prioritized to ensure a diverse representation of opinions and approaches. Although the sample is not large (nine experts), it can be considered appropriate for qualitative studies. Several studies mention that additional responses do not significantly increase the information, like Demirkensen et al. (2021), where they achieved saturation after the 12th interview in their study that was also related to people in the construction industry. In the case of the present research, saturation was observed after the 8th interview.

The interviews were conducted via Zoom or Meet video calls and lasted 30 to 60 minutes with each participant. The interview was divided into two stages: a first stage where information

about the interviewee was collected, including years of experience applying Lean Construction, types of projects they worked on, company size, and their position. In the second stage, the identified good practices, barriers, and benefits from the literature review were validated. The experts were asked if they had observed any additional good practices, barriers, or benefits throughout their careers that were not included in the lists presented.

Table 1: Expert profiles

ID	Academic level	Country	Experience	LC Experience	Current role
EX1	Ph. D.	Ecuador	32 years	32 years	Director of Civil Engineering
EX2	Ph. D.	Chile	14 years	11 years	Professor and researcher
EX3	Ph. D.	Brazil	15 years	15 years	Professor and researcher
EX4	Ph. D. (c)	Ecuador	15 years	10 years	Manager
EX5	Ph. D.	España	13 years	12 years	Professor
EX6	Ph. D.	Chile	18 years	18 years	General Manager
EX7	Ph. D.	Chile	40 years	32 years	Director of a Research Center
EX8	Magister	Perú	42 years	28 years	General Manager
EX9	Magister	Perú	12 years	10 years	General Manager

RESULTS AND DISCUSSION

GOOD PRACTICES

During the literature review, nine good practices were identified. These were subsequently validated and supplemented with two good practices from expert interviews. The details of these practices are presented in Table 2.

BP1 suggests the pressing need to establish an organizational environment conducive to continuous process optimization and reducing inefficiencies (Richert & McGuffey, 2019). All experts are in favor of this good practice. EX1 emphasizes the positivity of this practice but stresses, *["It is necessary to link it with a performance measurement culture."]*. EX2 highlights that *["It is important to establish a suggestion system in conjunction with this practice*."].

Regarding BP2, the importance of valuing individual successes and collective achievements is highlighted (Korb, 2016). This approach acts as a motivational catalyst for employees and strengthens the culture of continuous improvement, contributing to creating a positive work environment. EX1 shares their experience, stating that *["This practice is beneficial without incurring significant additional costs."*]. On the other hand, EX4 cautions about the careful design of incentives *["This could promote negative practices related to tight deadlines, compromising safety and work quality."]*. EX7 emphasizes, based on their experience, that *["This practice satisfies motivational needs at work."]*. Experts unanimously support this practice, considering that it would significantly contribute to fostering respect for individuals in the workplace.

Table 2: Good practices associated with RFP.

N°	Good practice	References
BP1	Establishing a culture that promotes continuous improvement	(Korb, 2016); (Richert & McGuffey, 2019)
BP2	Recognizing and celebrating achievements	(Korb, 2016)
BP3	Providing regular constructive feedback to support personal and professional development	(Korb, 2016)
BP4	Establish Clear and Shared Objectives	(Gomez et al., 2020); (Howell et al., 2017)
BP5	Encourage active participation of employees in decision-making related to their work and processes.	(Gomez et al., 2020); (Demirkesen et al., 2021); (Gomez et al., 2019); (Howell et al., 2017); (Filho et al., 2018)
BP6	Ensure safety in the construction environment by implementing measures that safeguard workers' physical integrity.	(Howell et al., 2017); (Gomez et al., 2020)
BP7	Establish a warm and friendly working environment.	(Richert & McGuffey, 2019); (Filho et al., 2018)
BP8	Ensure the recruitment and retention of high-quality employees.	(Filho et al., 2018)
BP9	Create a psychologically safe environment that fosters collaboration and learning.	(Howell et al., 2017); (Demirkesen et al., 2021); (Gomez et al., 2019); (Arroyo et al., 2018)
BP10	Value jobs with fair wages	Suggested by the expert panel
BP11	Instill a culture of respect among each team member.	Suggested by the expert panel

Concerning BP3, the importance of continuously providing positive and constructive feedback to support personal and professional growth is highlighted (Korb, 2016). EX1 maintains that *["This good practice should be applied to both technical staff and field personnel of the company."]*. Experts express that the lack of training is due to high employee turnover in the industry.

For BP4, EX1 mentions that *["It is a good practice that should be addressed in planning meetings with the team."]*. EX3 agrees, noting that it will depend on the formality level of the company. EX4 highlights the importance *of ["Objectives being cross-cutting and benefiting everyone."]*. EX5 emphasizes that *["Involving others in the common goal is a sign of respect."]*. EX6 expresses disagreement due to a lack of interest. The other four experts agree with this good practice.

The BP5 refers to involving employees in decision-making that directly affects their responsibilities (Howell et al., 2017). EX3 comments*: ["When studying resilience in workplace safety, safety should be addressed collaboratively."]*. Other six experts also express their agreement.

About BP6, which refers to implementing measures and protocols aimed at ensuring a safe working environment for employees, EX6 highlights that: *["This demonstrates concern for workers and is a good practice."].* The other experts validated this practice.

BP7 suggests cultivating a positive and welcoming work environment (Filho et al., 2018). EX2 notes that *["The terms are very general and should mention how to achieve a warm and friendly environment."]*. EX4 prefers a friendly environment over a warm one to promote a collaborative atmosphere. EX5 emphasizes that *["Working in a happy place increases productivity."]*. EX6 mentions that, although the good practice should be applied, making

friends is unnecessary to create a warm work environment. The other experts validated this good practice.

Regarding BP8, which refers to the importance of selecting and retaining highly competent and skilled professionals in the organization, EX6 and EX7 expressed their disapproval, mentioning that *["The construction industry is characterized by its temporary nature and fluctuation, so implementing this practice would not be suitable in this context"]*. The other seven experts approved this good practice.

BP9 ensures that workers are not punished for reporting errors or asking questions. Expert 1 mentions that ["It is difficult to implement due to the diversity of individual issues."] The other eight experts validate this good practice.

BP10 involves recognizing and adequately compensating employees' work and ensuring that salaries are fair and reflect each individual's contribution and value to the organization. The majority of experts supported this recommendation, with five mentions.

BP11 refers to knowing that each team member is essential for the project's completion and cultivating norms within the company that promote respect, incentivizing values and ethics. Three of the experts suggested this good practice.

BENEFITS

Six benefits were found during the literature review. These were then confirmed and reinforced by five further benefits that surfaced from expert interviews. Table 3 presents the benefits identified in this study.

B1 involves cultivating a sense of belonging and recognition among collaborators. Eight experts have validated this benefit. EX3 highlighted that: *["While this benefit could be a consequence of implementing good practices, it is crucial to conduct further research, such as a pilot test, to validate its effectiveness"]*.

Regarding B2, which entails recognizing the importance of maintaining a comprehensive approach within the Lean framework, over 88.8% of experts endorsed this benefit according to their opinions.

Concerning B3, which involves creating an organizational environment conducive to employees' professional and personal growth, this benefit was corroborated by the experience of three experts.

Table 3: Benefits identified.

N°	Benefits	Reference
B1	It creates an environment where employees feel valued and an integral part of continuous improvement.	Suggested by the expert panel
B2	Prevents Lean tools from deviating from their primary focus on continuous improvement.	(Korb, 2016)
B3	Facilitates development and innovation	Suggested by the expert panel
B4	Leads to increased productivity.	(Demirkesen et al., 2021); (Filho et al., 2018)
B5	Encourages an open and transparent communication environment	(Filho et al., 2018); (Demirkesen et al., 2021); (Arroyo et al., 2018)
B6	Employee loyalty to the company	Suggested by the expert panel
B7	Eliminates inefficiencies and waste	(Demirkesen et al., 2021)
B8	Facilitates the creation of a culture of adaptability and flexibility	Suggested by the expert panel
B9	Contributes to the development of more potent and more respectful working relationships	(Richert & McGuffey, 2019)
B10	Contributes to the emotional well-being of employees	(Filho et al., 2018)
B11	Increases occupational safety and security	Suggested by the expert panel

Regarding B4, which involves various improvements and approaches that contribute to increased efficiency and performance in the workplace, experts 2, 4, 5, 6, 7, 8, and 9 validated this benefit. EX1 emphasized that *["productivity is enhanced by at least 10% by improving worker performance"].* However, EX3 noted the need for further research to validate this claim due to the various variables that may influence it.

Concerning B5, which involves fostering an environment of open and transparent communication, EX3 mentioned that *["By having open communication with the team, not only does it strengthen trust and collaboration among members, but it also facilitates the efficient identification and resolution of challenges"].* All experts validated this benefit.

As for B6, according to EX5, applying good practices of respect for individuals can generate loyalty in high-quality workers, thereby increasing the company's personnel quality.

Regarding B7, which allows for eliminating inefficiencies and waste, all the showed their approval. EX1 mentioned that *["By using 5S, material waste and accidents are eliminated"],* while other experts highlighted eliminating unused talent waste and reducing waiting times due to coordination.

Regarding B8, which implies that applying good practices of respect for individuals establishes an environment conducive to continuous adaptation and flexibility, experts 3 and 4 mentioned that, based on their experience, this benefit has been observed. They emphasize that ["People, when feeling heard and in a positive environment of respect, show a higher likelihood of flexibility towards ideas and working methods"].

Regarding B9, EX5 expressed skepticism and suggested the need to verify it, as relationships between people depend on multiple factors that are difficult to measure. Despite this, other experts approved based on their experience with projects.

As for B10, EX3 disagreed, arguing that *["There are other factors that can affect emotional well-being"]*. However, other experts have validated this good practice.

Seven experts validated the last benefit (B11), which increases occupational safety by creating a safer work environment. EX1 mentioned having achieved zero accidents on a

construction site by applying these concepts of good practices, thus supporting the effectiveness of such measures.

BARRIERS AND CHALLENGES

During the literature review, a total of 6 barriers were identified. These were subsequently validated and supplemented with three additional barriers, which emerged from expert interviews. The details of these barriers are presented in Table 4.

Table 4: Barriers and Challenges Associated with RFP.

N°	Barriers and Challenges	Reference
Ch1	Lack of active employee participation	(Gomez et al., 2020); (Richert & McGuffey, 2019)
Ch2	Lack of transparent communication	(Gomez et al., 2020); (Richert & McGuffey, 2019)
Ch3	Culture of blame for mistakes	Suggested by the expert panel
Ch4	Technocracy exists in the construction industry	Suggested by the expert panel
Ch5	Authoritarian decisions	(Filho et al., 2018)
Ch6	Inequality and discrimination	(Richert & McGuffey, 2019)
Ch7	Resistance to Change and lack of flexibility in working methods	(Richert & McGuffey, 2019)
Ch8	Lack of career development opportunities and recognition	(Korb, 2016)
Ch9	Destructive skills	Suggested by the expert panel

The Ch1 implies that employee reluctance or lack of commitment to continuous improvement initiatives could pose a significant obstacle. While most experts (8 in total) endorsed this barrier, EX1 presented a different perspective by arguing that *["This barrier reflects more an organizational culture where responsibility is assigned based on specific training for a task"]*. Additionally, EX5 pointed out that, *["Employee active participation may be underestimated, as some apply lean practices without full knowledge of it"]*.

Regarding Ch2, EX1 highlighted its impact, especially in supplier communication. Other eight experts supported the existence of this barrier. Furthermore, EX5 noted that *["Sometimes workers are communicated to without fully explaining the reason behind tasks, which can lead to lack of participation"]*.

Although EX5 did not fully validate Ch3, seven other experts endorsed a culture of blame and stigmatization for errors, emphasizing the need to address this aspect in the workplace.

Regarding Ch4, according to EX7, *["Many companies prioritize indicators and performance without considering people"]*. EX3 and EX5 supported the existence of this barrier in the construction industry, pointing out the lack of consideration for human aspects in process optimization.

Ch5 refers to "Authoritarian Decisions." Although EX1 does not fully support this barrier and highlights that *["There is a contradiction with the Lean philosophy of integrating knowledge from the bottom up"],* other five experts corroborated the presence of this barrier. In this regard, EX7 presents the perspective that *["Rather than being a barrier, it could be considered a bad practice"],* suggesting that although this dynamic may represent a challenge, it can also be interpreted as inefficient behavior within the operational framework.

Regarding Ch6, according to EX1, *["This barrier involves wage disparities and discrimination against female crews"],* while EX4 and EX8 highlighted wage inequality,

although most experts supported the existence of this barrier, EX7 mentioned that *["This barrier was seen more as a bad practice than as a structural barrier"].*

Regarding Ch7, experts 1, 3, and 6 supported the existence of this barrier, pointing out cultural resistance and rigidity in traditional practices. The remaining experts also expressed their agreement with its presence.

Concerning Ch8, EX1 considered that *["This affects employee contribution"],* while another three experts are not entirely in agreement with classifying this as a barrier. However, other experts have expressed their agreement with this barrier.

As for Ch9, EX1 and EX2 emphasized that *["This occurs because there is a lack of a collaborative culture"].* Although some experts (3 and 5) do not strictly consider it a barrier, all the other experts in the interview validated its existence, highlighting the importance of fostering a collaborative environment to prevent destructive competition.

CONCLUSIONS

This study identified eleven good practices, eleven benefits, and nine barriers related to respect for individuals in construction projects. Nine experts validated these findings. Based on these results, guidelines have been established that can be applied in various construction projects to implement these practices, identify barriers present in companies or projects that hinder their full implementation on the construction site, and ultimately reap the benefits after implementing respect for individuals.

It is important to note that this study may have some limitations. For example, the identified good practices could be influenced by the cultural characteristics of the places where Lean Construction is implemented. Additionally, it is crucial to validate these good practices, benefits, and barriers in various construction projects to ensure their widespread applicability, and further research is suggested to expand the list of good practices.

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