

RESULTS OF INDICATORS FROM THE LINGUISTIC ACTION PERSPECTIVE IN THE LAST PLANNER® SYSTEM

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Last Planner System and Linguistic Action Perspective

COMMITMENT MANAGEMENT IN LAST PLANNER SYSTEM

- The correct implementation of the Last Planner® System has been proven to increase the reliability of the planning and performance levels of projects by managing commitments.
- However, the current management of commitments in weekly planning meetings has not been sufficiently analyzed to teach people how to make reliable promises. Therefore, it is essential to deepen the measurement indicators of the Linguistic Action Perspective to generate reliable commitments that reduce uncertainty and variability in the projects.

Last Planner System and Linguistic Action Perspective

COMMITMENT MANAGEMENT IN LAST PLANNER SYSTEM

- This study, based on "design science research", shows the first results of the indicators of the fundamental elements of language and action in construction projects in Chile.
- The results are an improvement over the previous indicators.
- Previous indicators have only been validated in a classroom setting, whereas this paper presents a validation based on case studies on actual construction projects which carry out weekly meetings using LPS.

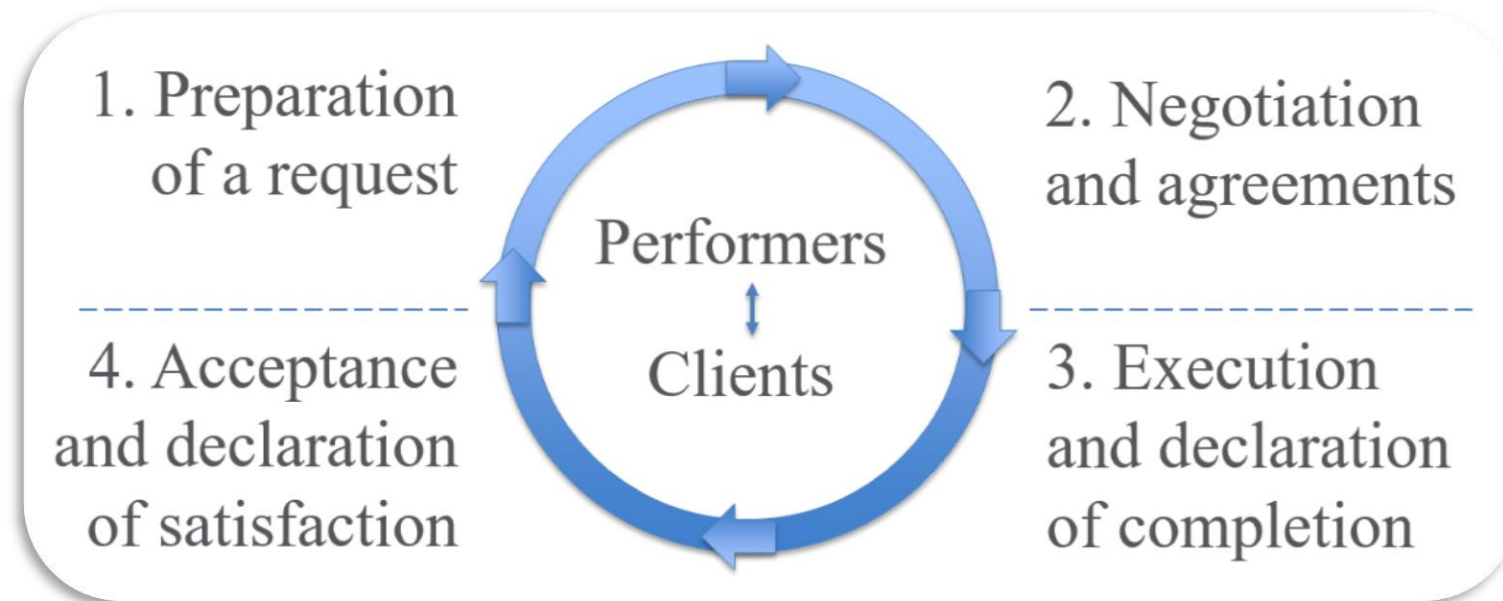
Last Planner System and Linguistic Action Perspective

LINGUISTIC ACTION PERSPECTIVE (LAP)

- Flores proposes a basic and universal structure, based on the performance of certain speech acts (2015).
- Every conversation for action includes four basic speech acts:
 - 1) request or offer,
 - 2) promise or acceptance,
 - 3) declaration of completion,
 - 4) declaration of satisfaction.

Last Planner System and Linguistic Action Perspective

NETWORK OR CHAIN OF COMMITMENTS



Source: Salazar et al. (2018) based on Flores (2015)

Case Studies

STRATEGY TO SELECT THE CASE STUDIES

- The "information-oriented selection" was used to establish "extreme cases/deviations" (Flyvbjerg 2006).
- The team used the "information-oriented selection" due to the feasibility of research with companies.
- The units of the analysis were 4 multistory building projects with the LPS implemented with different degrees of maturity, in Santiago, Chile.

Results of the indicators

Measure Name	Results	General Comments
% compliance network or chain of commitments	0%	<ul style="list-style-type: none"> * The preparation of the petition is observed * There is no negotiation process, but rather an imposition by the client * The declaration of compliance is verified * The declaration of satisfaction is not observed
% fulfillment of a request	100%	<ul style="list-style-type: none"> * Client is clear about the request (what) and to whom it will be entrusted (performer)
% compliance negotiation and agreements	20%	<ul style="list-style-type: none"> * In general, there is no negotiation before the agreement. The performer assumes the order established by the client. Sometimes he does not answer if he can or does not comply with the agreement
% declaration of compliance with the commitment	78%	<ul style="list-style-type: none"> * It is verified by questions to clients and performers before the weekly meeting that there is a high percentage of declarations of compliance with the commitments. However, there are performers who do not inform clients that they finished with the assigned task
% fulfillment declaration of satisfaction	5%	<ul style="list-style-type: none"> * There is a low percentage of commitments in which satisfaction is declared by the client. In general, it is only indicated if the commitment is fulfilled or not, without giving feedback to the performer

Measure Name	Results	General Comments
% definition of roles and responsibilities of the performers	83%	* In general, roles are defined intrinsically: client requests and performer agrees. Regarding responsibilities, the scope of the commitment is not always clearly established
% fulfillment of roles and responsibilities of performers	15%	* In general, in the construction works the performer does not commit, the one who commits is the head of the performer (foreman) * Performer is engaged in administrative aspects (management team)
% declaration of the priority of commitment	10%	* In general, the priority of the commitments is not declared. This does not allow the foremen to carry out an adequate planning regarding the execution order of the assumed commitments
% compliance with priority commitments	100%	* The few commitments that were declared a priority were completed. The foregoing demonstrates the importance of making the priority statement
% verification of availability of performers in agreements	18%	* There is a low percentage of verification of the availability of performers in the stage of negotiation and agreements
% specify the deadline	10%	* In general, only the date is specified, but it is not detailed schedule, or if it will be completed in the morning or in the afternoon

Measure Name	Results	General Comments
% of unnecessary requests	3%	* Low percentage in weekly meetings * According to the workers, the foremen often make unnecessary requests on the field
% reliability compliance (* complementary to PPC)	81%	* It must always be a percentage equal to or greater than the PPC * Complements the PPC with additional movements, which happen after the initial agreement (revoked, renegotiated and canceled commitments)
% revoked commitments	4%	* Are those in which the performer informs the client after the meeting that he will not be able to fulfill the required commitment
% renegotiated commitments	2%	* Are those in which the performer (or client) wishes to change the conditions of satisfaction after the meeting to generate a new negotiation
% canceled commitments	1%	* Are those in which the client informs the performer after the meeting that the acquired commitment is no longer necessary
% Engaged participants	48%	* High degree of participation (only 10% left the meeting) * No meeting started at the agreed time * A lot of interaction with the cell phone during the meeting (calls, chat and e-mail) * Interruptions by radio * Some moments spoke two or more people at the same time * 60% of the team takes note (everyone should take note) * Non-verbal language indicates fatigue and lack of attention

Conclusions

- To validate these measurements, contractors who participated in Last Planner® System meeting were consulted about their perceptions, they stated that these measurements improved the ability to provide reliable promises, since they understood the importance of speech acts, satisfaction conditions and trust in the management of commitments.



Conclusions

- Also, in future studies, the authors propose to apply case studies in weekly planning meetings in other industries worldwide and to determine the recommended values to improve communication and achieve the proper implementation of LAP in LPS.



Conclusions

- Finally, the authors consider that this second generation of key performance indicators measured in the field (eliminating, changing and proposing the KPI from the first generation) generate a powerful tool to measure, control and improve the management of commitments in weekly planning meetings, since they enable quick feedback that undoubtedly enriches the Last Planner® System.



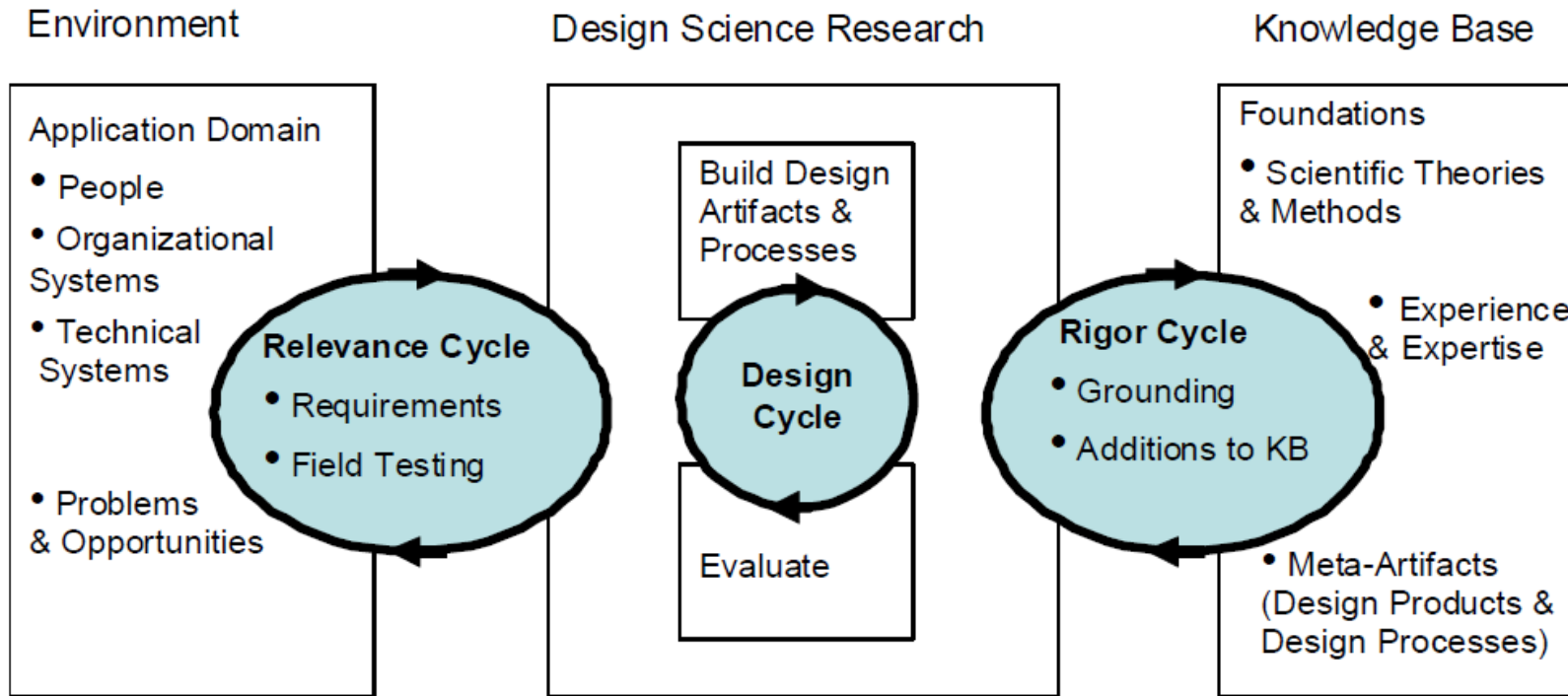
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Research Methodology

A THREE CYCLE VIEW OF DESIGN SCIENCE RESEARCH



Source: Hevner (2007)