



GEPUC

Centro de Excelencia en Gestión de Producción UC

Lean Construction Professional's Profile (LCPP): Understanding the Competences of a Lean Construction Professional

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Introduction

- Most implementations of Lean Construction have been very fragmented (Pichi & Granja, 2004; Alarcón et al, 2006)
- Chilean case: main problems have been related to *cultural, organizational* and *human* issues
- *Organization development program*, including:
 - Review of Project Managers (PM) role
 - Develop a training program for their professional staff to become a “lean organization”

Research objectives

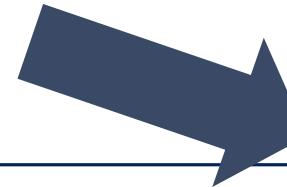
Propose a way to support lean construction in contractor organizations (people perspective)

Create a Lean Construction Professional Profile (LCPP)

Expand the focus centered in projects toward a holistic vision of the implementation, that will include:

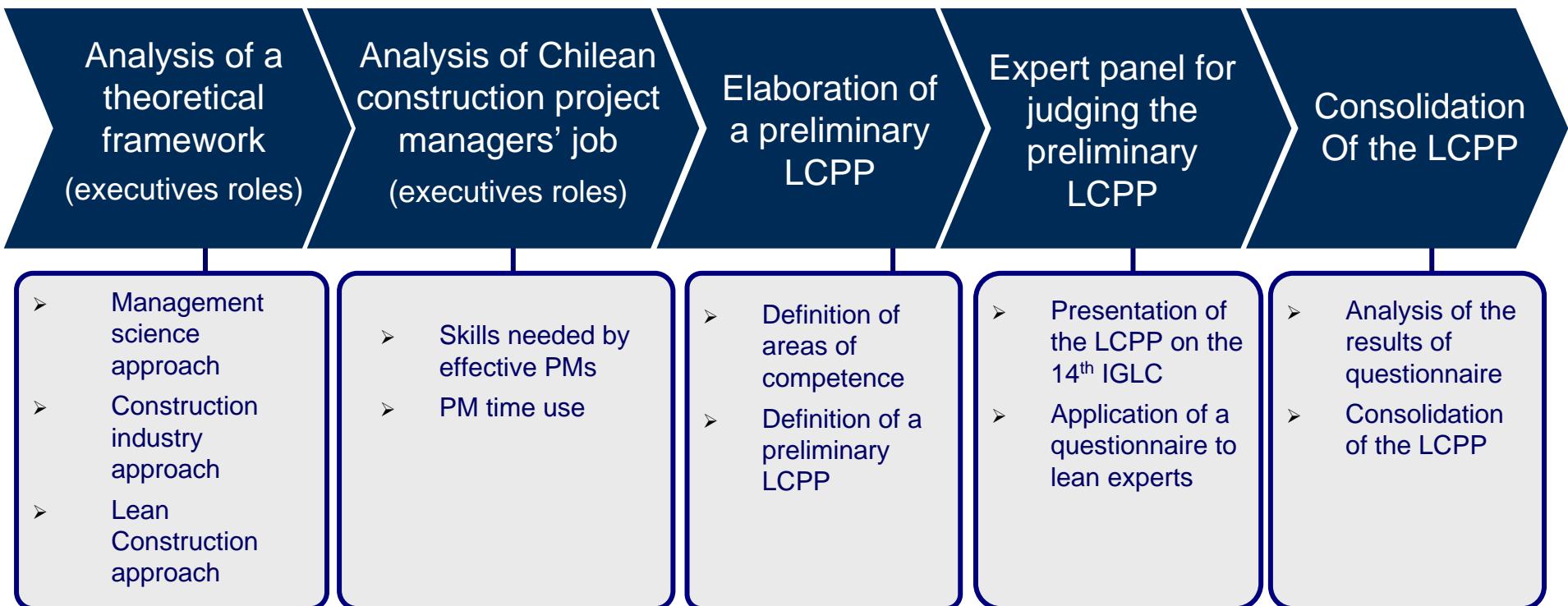
*Culture
Organization
People*

Background: why do research on people issues?

		Implementation scenarios (Picchi & Granja, 2004)		
		Scenario 1 Fragmented tools applications	Scenario 2 Integrated job site application	Scenario 3 Lean enterprise application
Implementation Phases (Seguel, 2004)	Phase A University team responsibility	● Company 2		
	Phase B Shared implementation responsibility	● Company 1 ● Company 3 ● Company 4		
	Phase C Company responsibility	● Company 5 ● Company 6		

Companies need to evolve from “Scenario 1” to “Scenario 3”, but for doing so they need to generate capabilities to support this change.

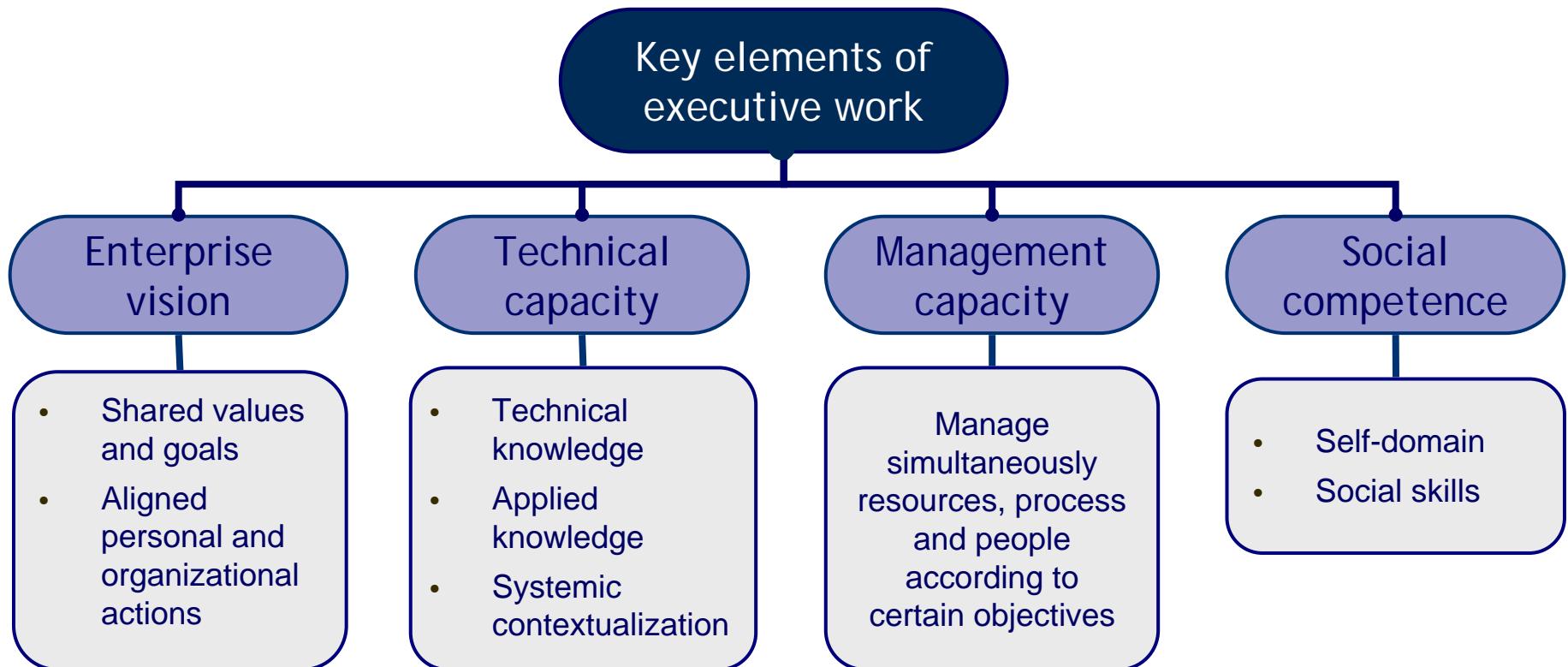
Research methodology



Step 1: Analysis of a theoretical framework



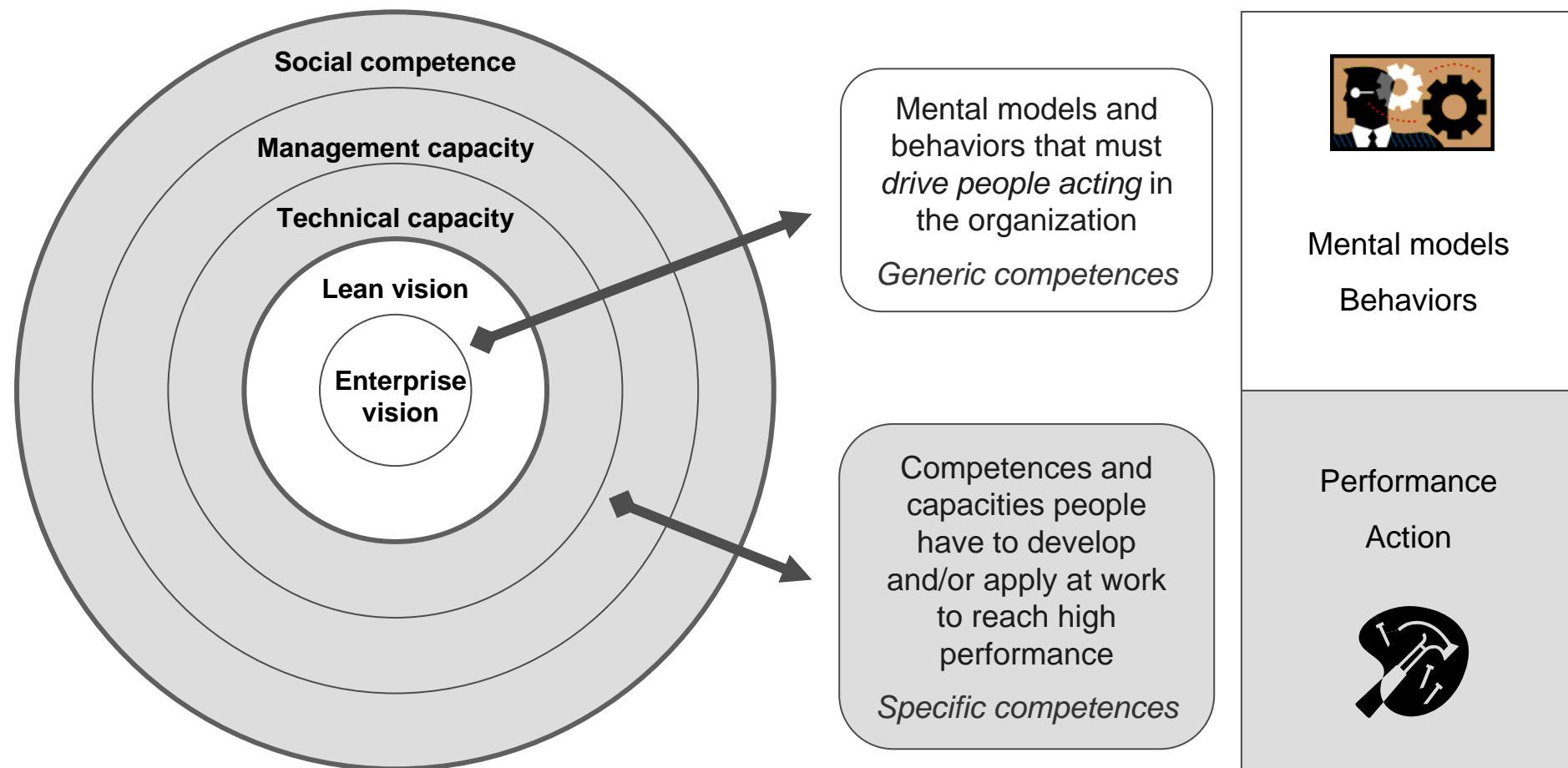
Step 1: Analysis of a theoretical framework



Step 2, Empirical analysis: Chilean construction project managers job

Empirical evidence from Chilean reality	Enterprise vision	Technical capacity	Management capacity	Social competence
Skills needed to be an effective PM (Pavez, 2007)		✓	✓	✓
PM's time use (Alarcón & Pavez, 2006)		✓	✓	✓

Step 3, Elaboration of a preliminary LCPP



Step 4, Expert panel for the preliminary LCPP

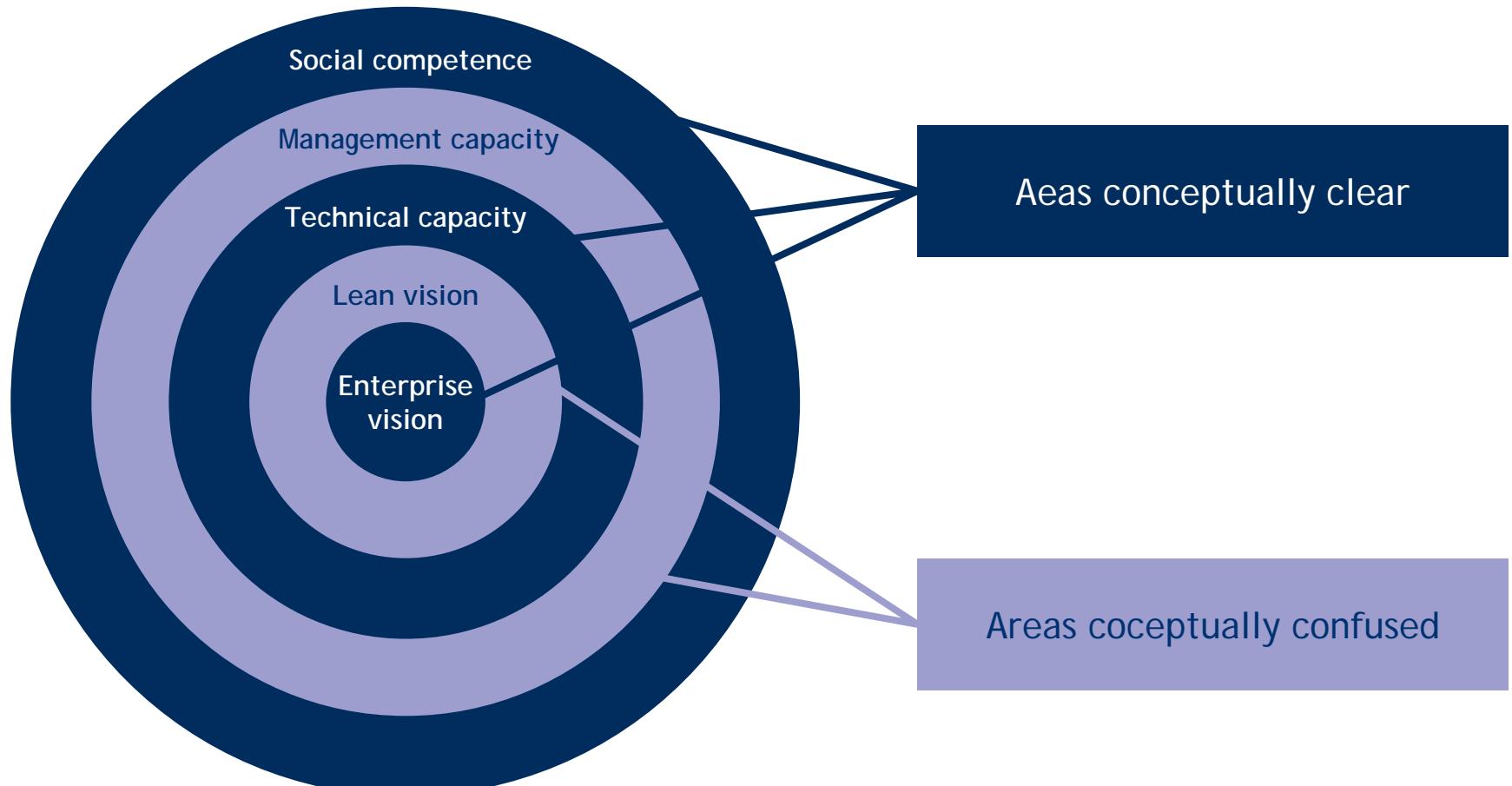
- Regarding the preliminary LCPP, a formal questionnaire was sent by e-mail to analyze three issues:
 1. The importance of the competence areas for a lean professional
 2. The adequateness of the competence areas proposed
 3. The definition of specific competences associated to each competence area

Step 4, Expert panel for the preliminary LCPP

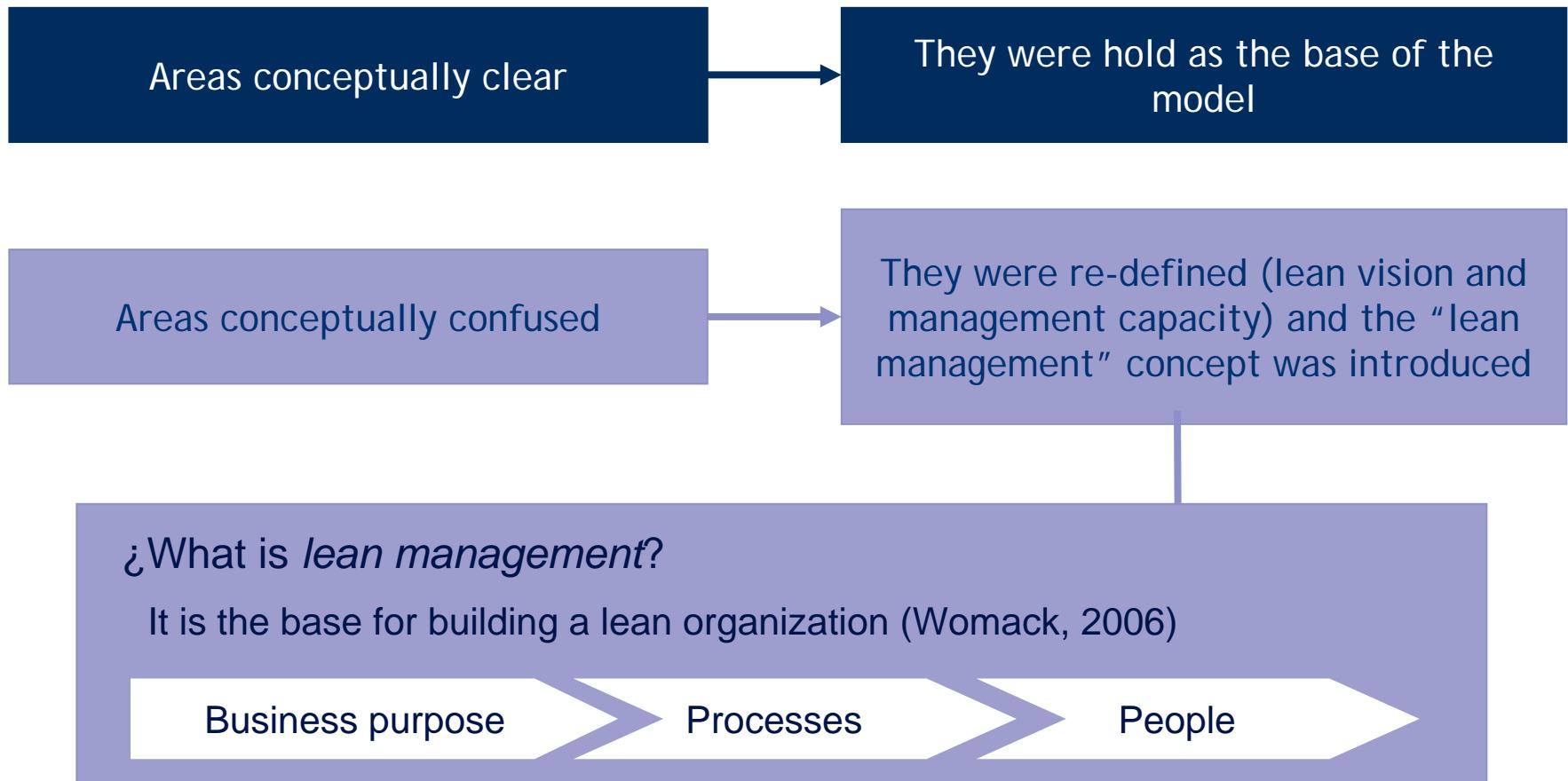
Expert	Country	Experience in construction	Academic experience	Experience in lean construction
Expert 1	Brazil	20	28	10
Expert 2	Brazil	24	20	9
Expert 3	USA	11	19	11
Expert 4	USA	40	20	20
Expert 5	Brazil	30	22	10
Expert 6	Israel	8	9	6

Step 4, Expert panel for the preliminary LCPP

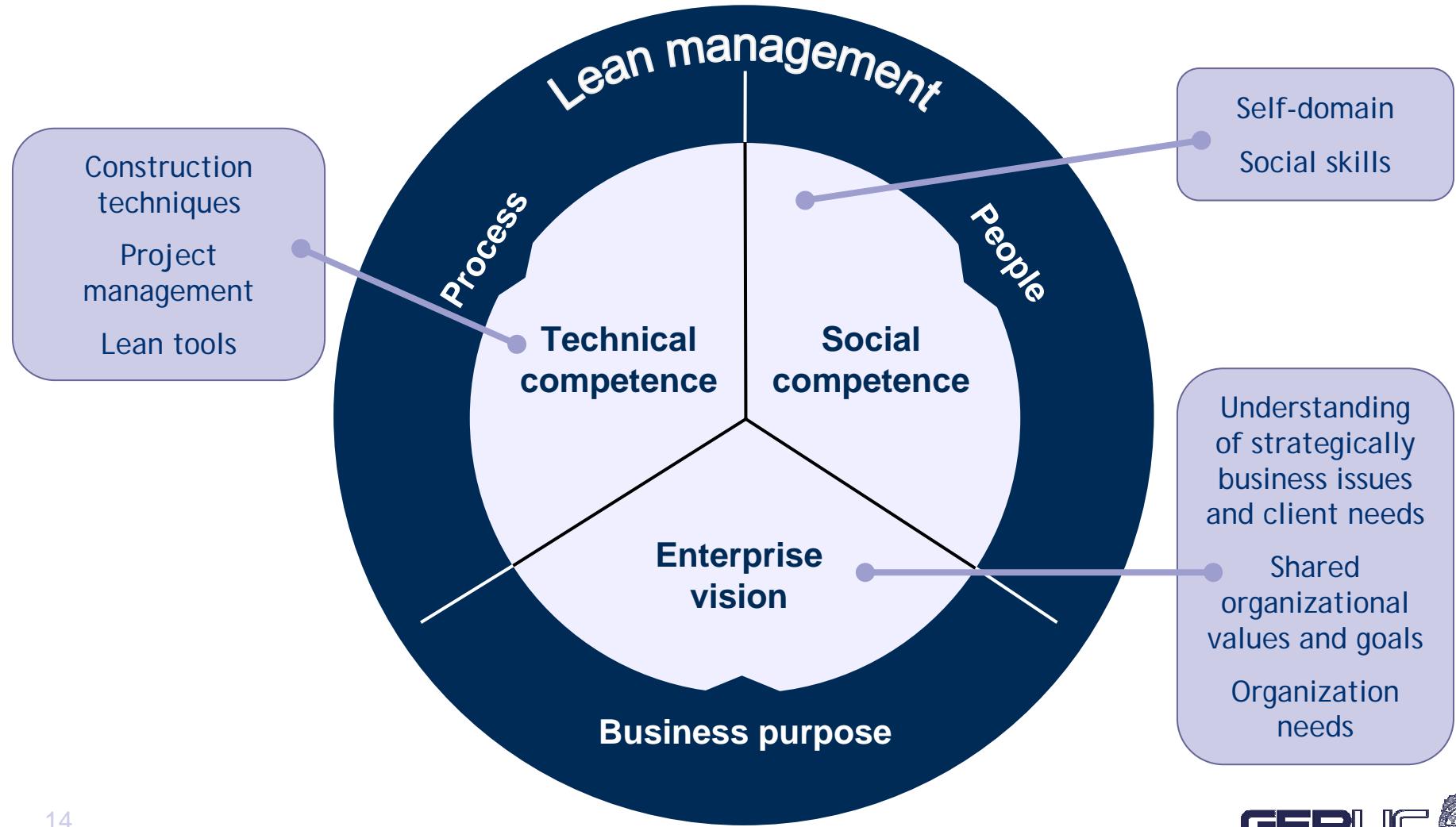
Brief of the lean experts opinion...



Step 5, Consolidation of the definitive LCPP



Lean Construction Professional's Profile (LCPP)



Conclusions

- This research investigated the way in which people could support the transformation of the lean organization by defining the LCPP
- The LCPP provide the competence areas needed by a lean construction professional (change agent) consistent with the elements of “lean management”; which is defined as a new understanding of how to be a lean organization (Womack, 2006)
- The conceptualization of the LCPP provides a good framework to drive people development inside construction companies, because it presents a complete model of the competence areas needed by lean professionals and a clear definition of the focus that each competence area must have

Recommendations for future research

- Identify specific competences for each competence area
- Study the differences among professional's positions by each competence area
- Define the most important competences in each competence area regarding the better way to support lean construction in contractor organizations
- Design training programs to develop each competence area in the professional staff of the companies



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