



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

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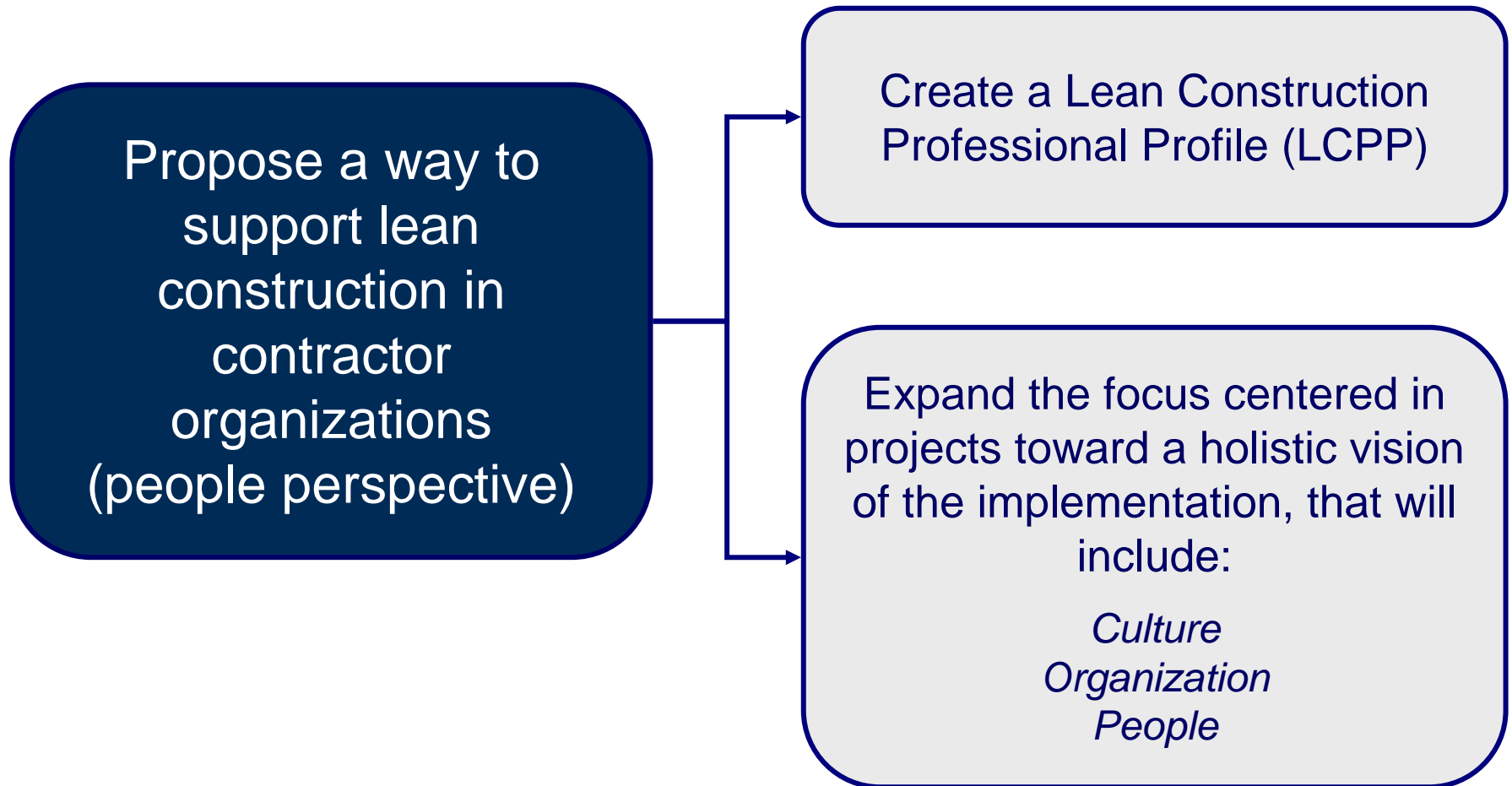
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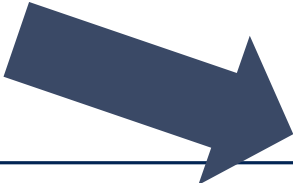

# Introduction

- 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

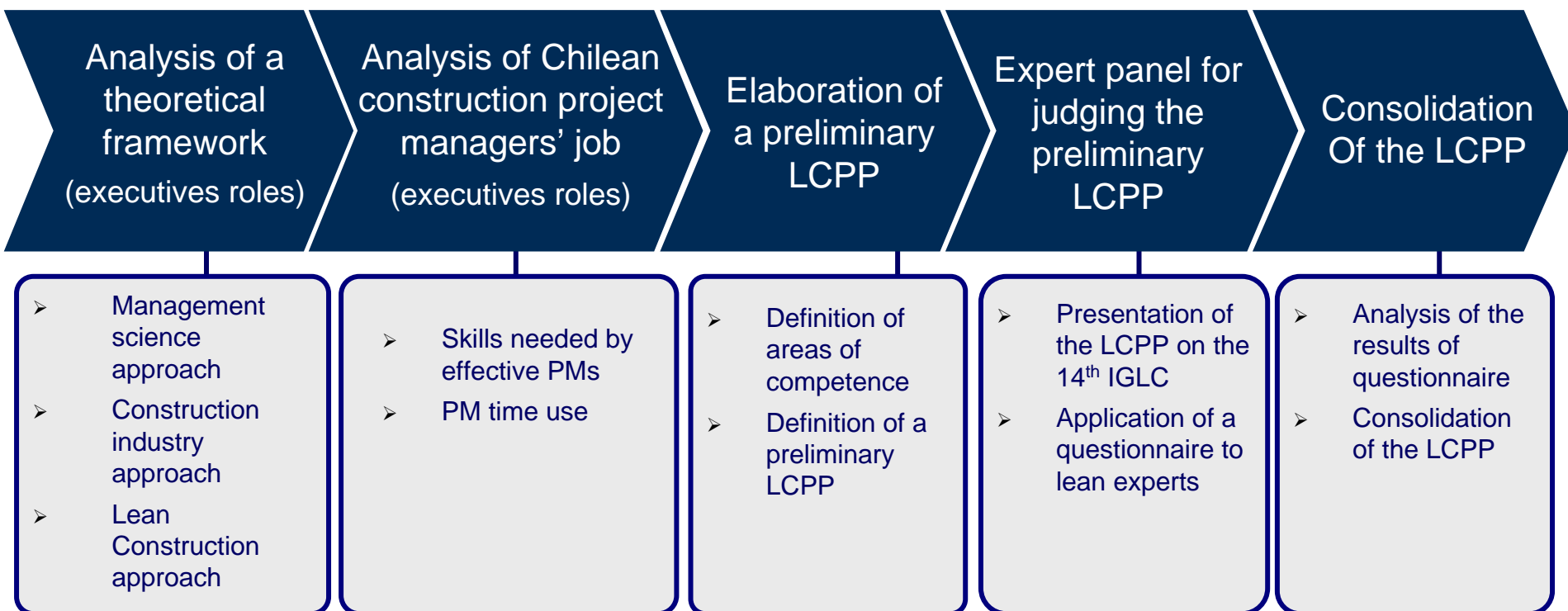


# Background: why do research on people issues?

		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	<ul style="list-style-type: none"> <li>● Company 1</li> <li>● Company 3</li> <li>● Company 4</li> </ul>		
	Phase C Company responsibility	<ul style="list-style-type: none"> <li>● Company 5</li> <li>● Company 6</li> </ul>		

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

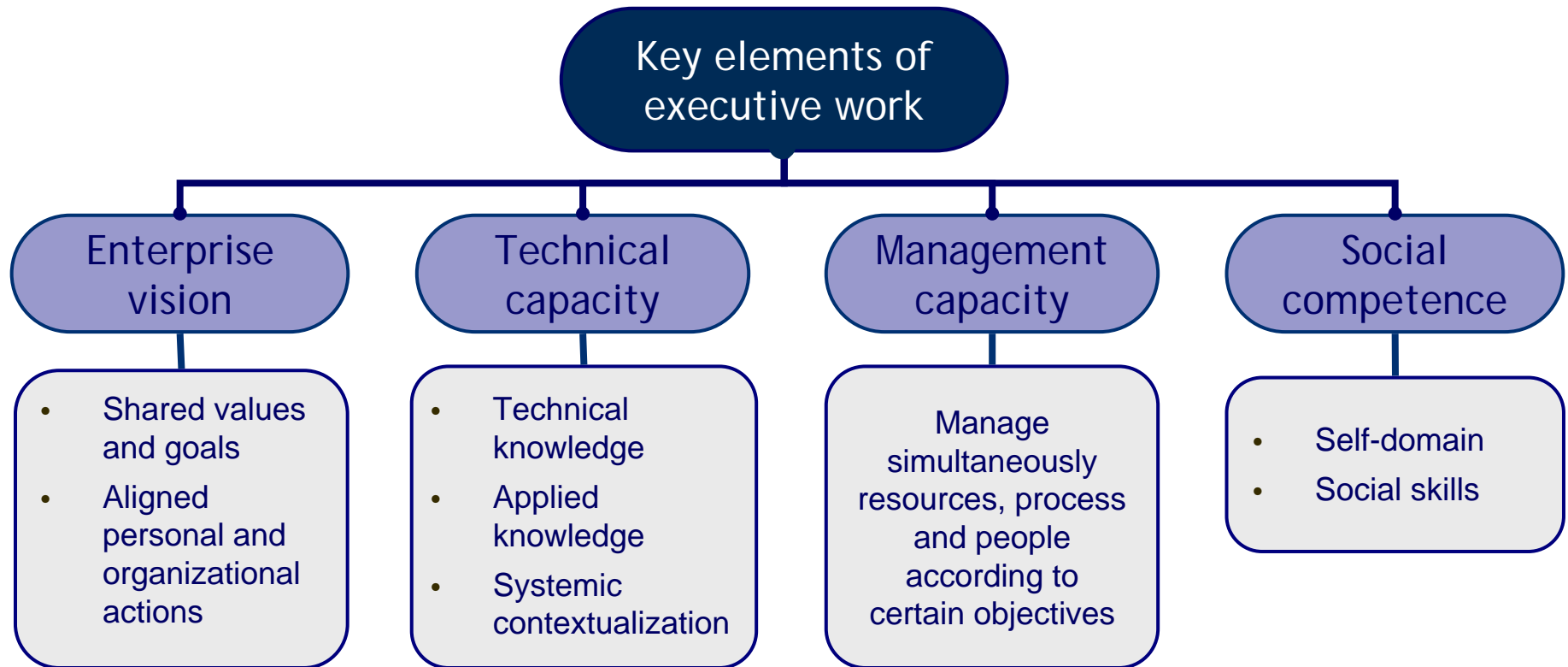
# Research methodology



# Step 1: Analysis of a theoretical framework



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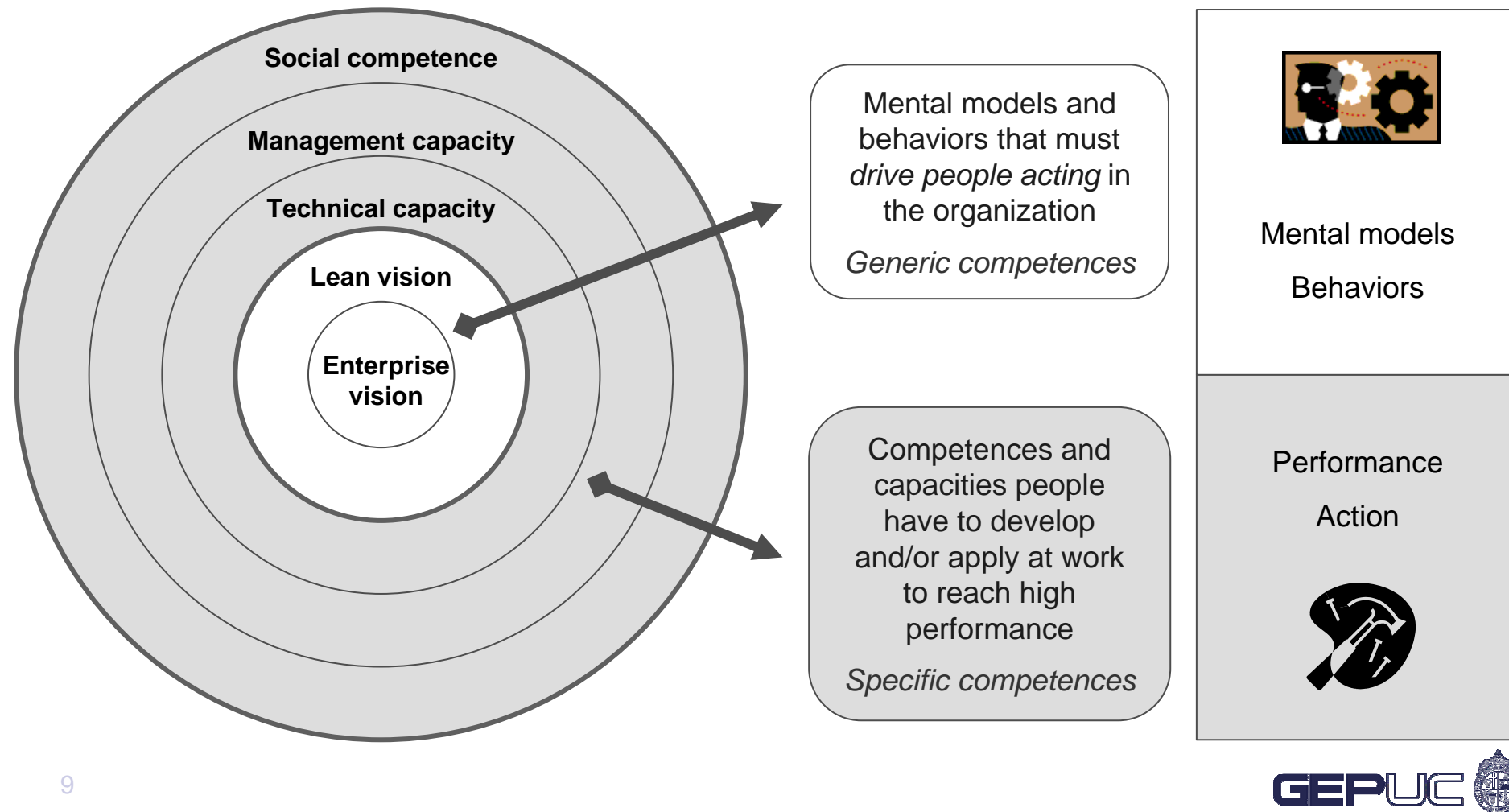


## Step 2, Empirical analysis: Chilean construction project managers job

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

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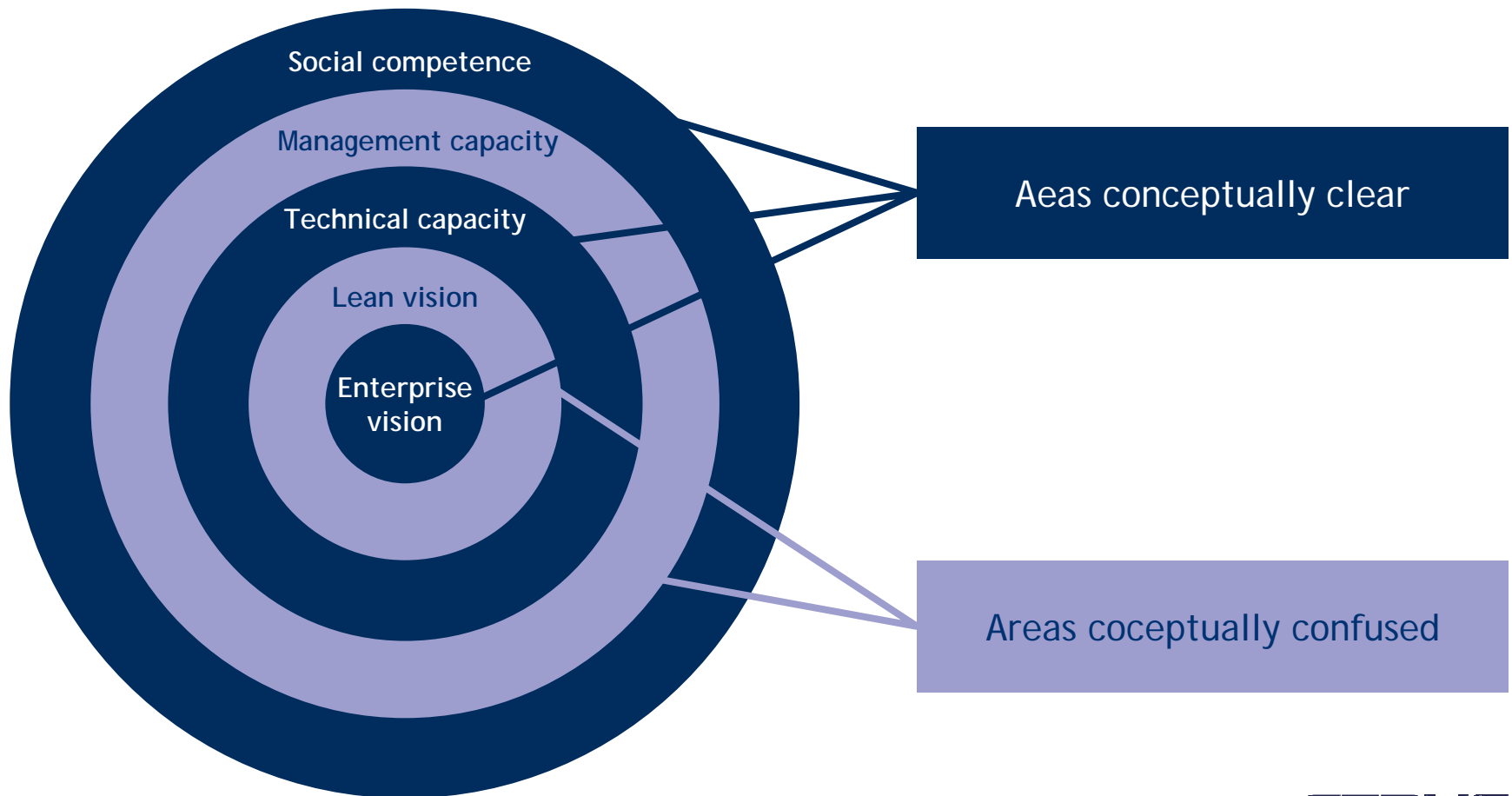
- Regarding the preliminary LCPP, a formal questionnaire was sent by e-mail to analyze three issues:
  1. The importance of the competence areas for a lean professional
  2. The adequateness of the competence areas proposed
  3. The definition of specific competences associated to each competence area

## Step 4, Expert panel for the preliminary LCPP

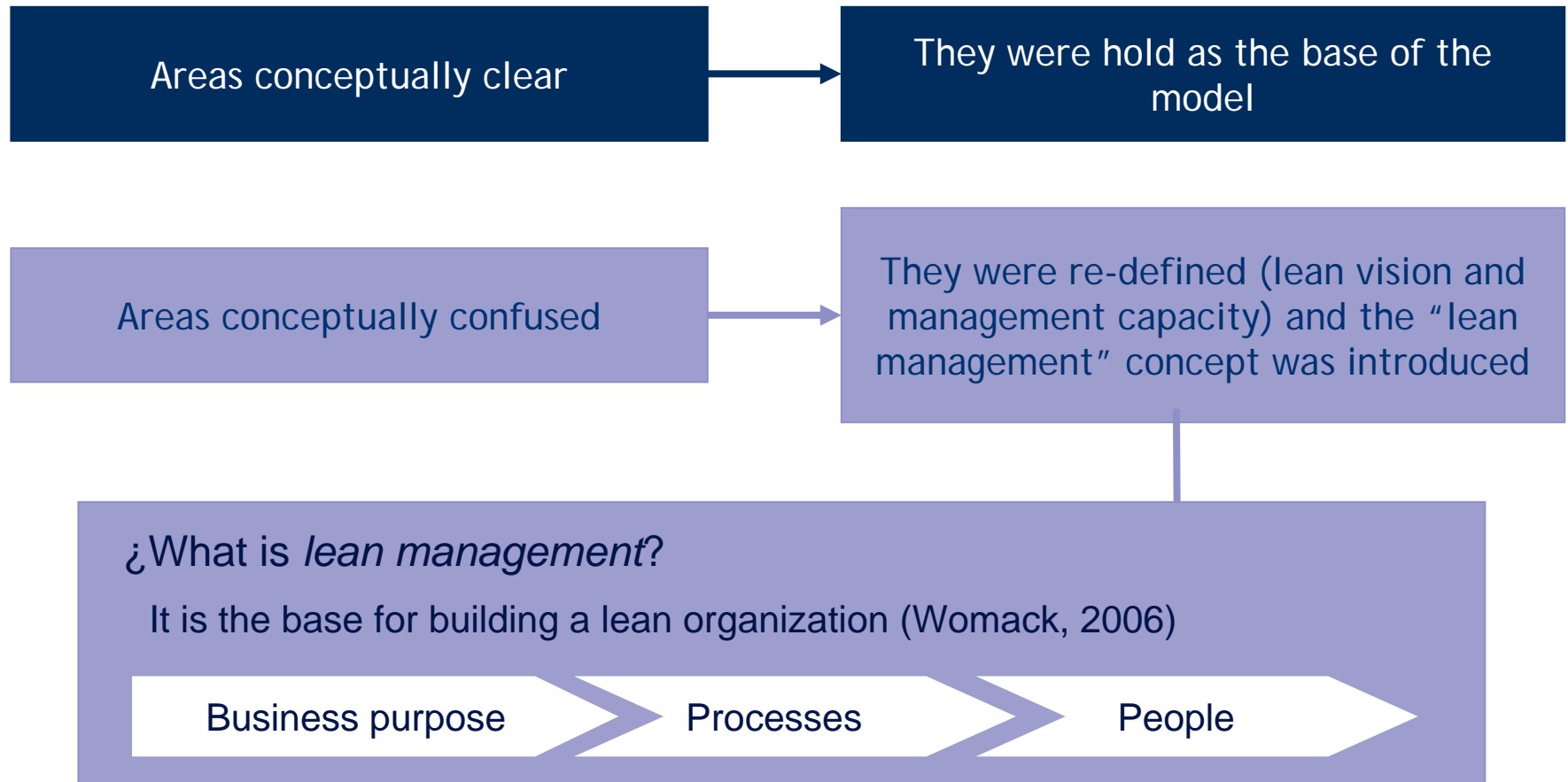
Expert	Country	Experience in construction	Academic experience	Experience in lean construction
Expert 1	Brazil	20	28	10
Expert 2	Brazil	24	20	9
Expert 3	USA	11	19	11
Expert 4	USA	40	20	20
Expert 5	Brazil	30	22	10
Expert 6	Israel	8	9	6

# Step 4, Expert panel for the preliminary LCPP

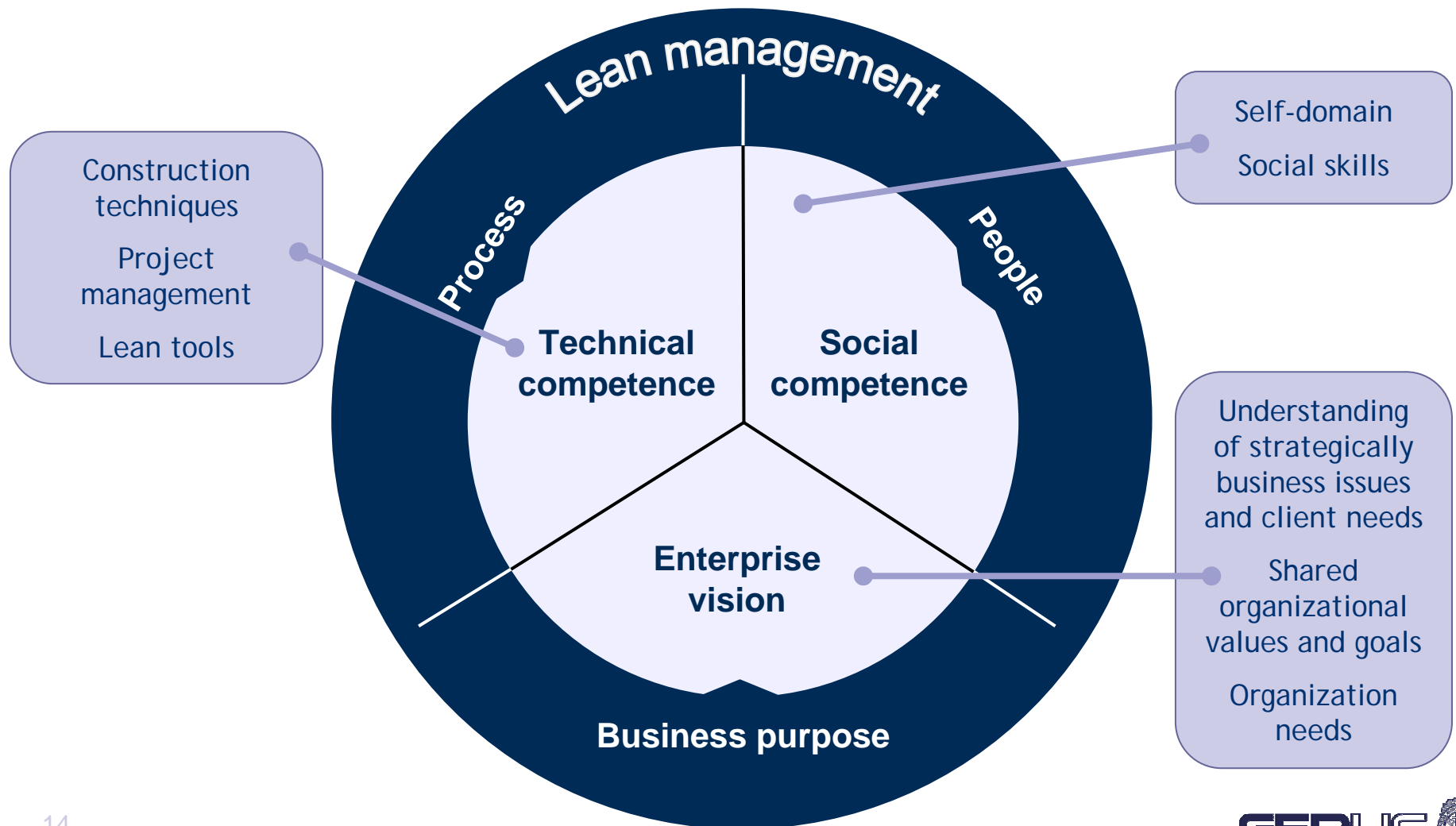
## Brief of the lean experts opinion...



## Step 5, Consolidation of the definitive LCPP



# Lean Construction Professional's Profile (LCPP)



# Conclusions

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- 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

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- 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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