

FORECASTING PUBLIC HOUSING TENDER PRICE IN AUCKLAND MARKET

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**TENDER
PRICE INDEX**



Background

- The pipeline of projects -" Auckland Housing Programme" delivers public affordable housings from 2016 to 2026, with price cap.
- Accuracy of tender cost estimate is an important factor of achieving price cap requirement.
- Public sector client must monitor the long-term tender price movement to set up long-term budget and adjust price limit timely.

Problem statement

- Lack of study of factors affecting accuracy of public housing project tender price
- Lack of tool designed for the public sector client to predict tender price and adjust cost limit effectively and efficiently .

Research question

- What are the factors affecting the accuracy of public housing's tender price?
- How much impact does each factor have on the accuracy of public housing tender price?
- How does the tender price prediction tool measure and accommodate the factors and their impact?



Literature review

Tender price prediction methods

Rate method

Single rate method

Inception & design

- Functional unit method
- Superficial floor area method
- Volume method

Multiple-rate method

Conception design

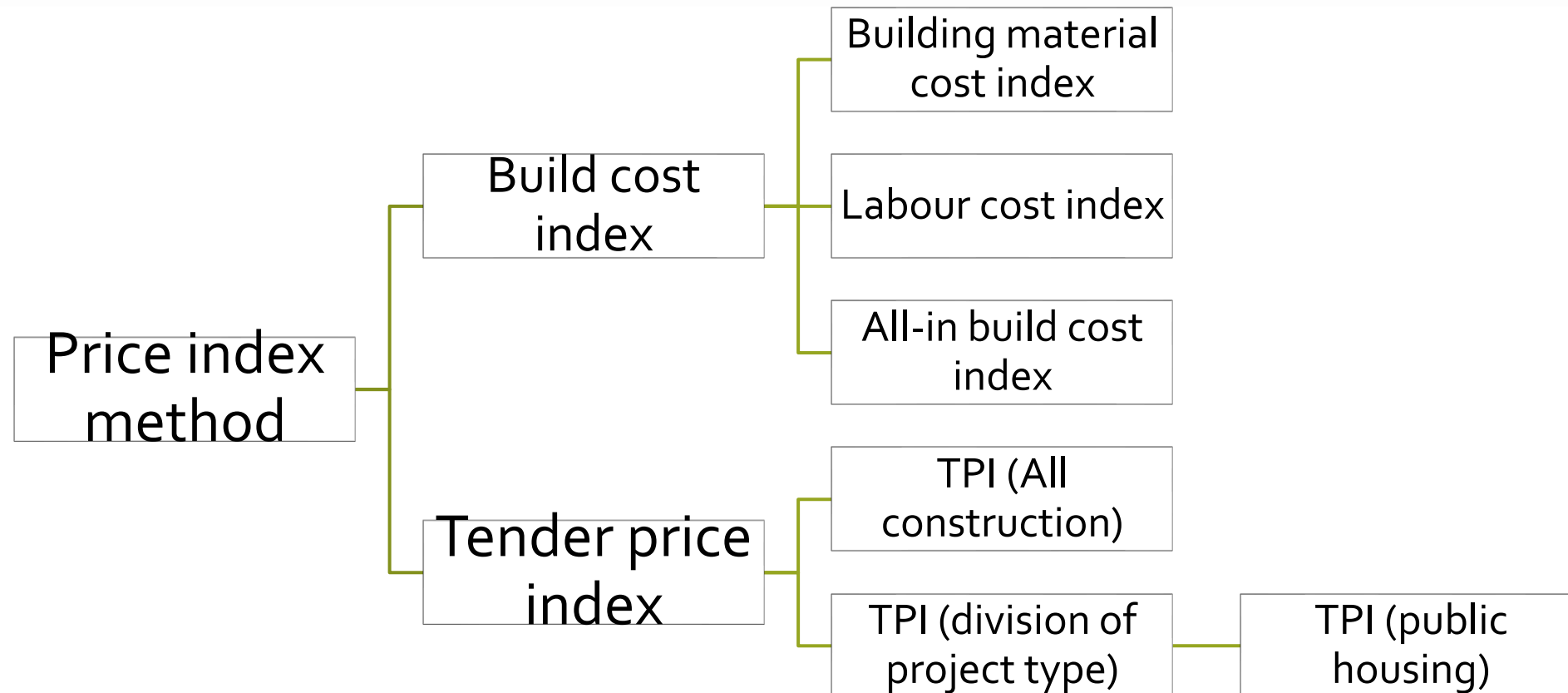
Developed design

Detailed design

- Elemental cost
- Approximate quantities
- Schedules of quantities

Literature review

Tender price prediction methods



Literature review

Factors affecting accuracy of tender price

Project characteristics

- Project scale & scope, location, buildability
- Techniques, programme, access, structural type

Design parameters

- Completeness and accuracy of design info
- Designer's experience & expertise, availability of historical data, procedure of updating information

Market conditions

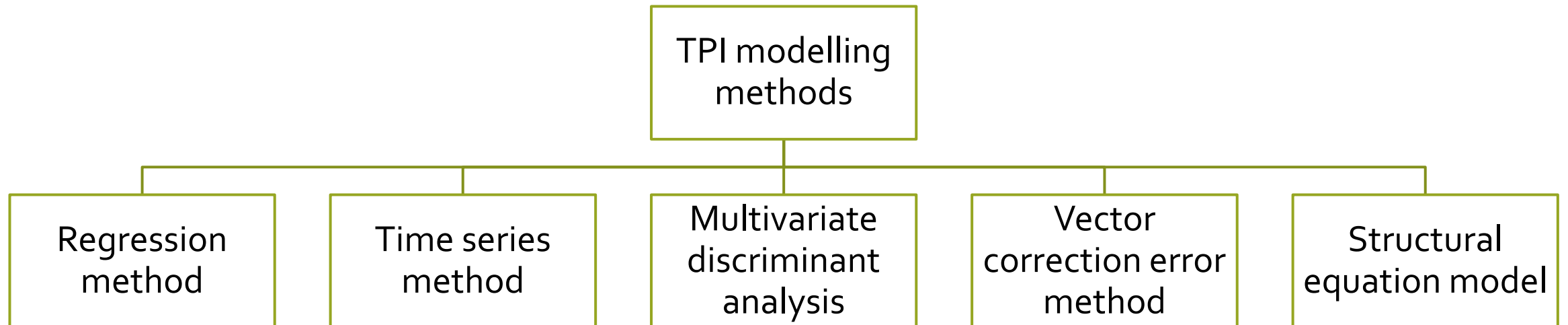
- Material cost, labour cost, plant cost
- Market stability, inflation, exchange rate, competition, public policy

Client characteristics

- Experience & expertise, budget
- Quality & functionality expectation, time allowance

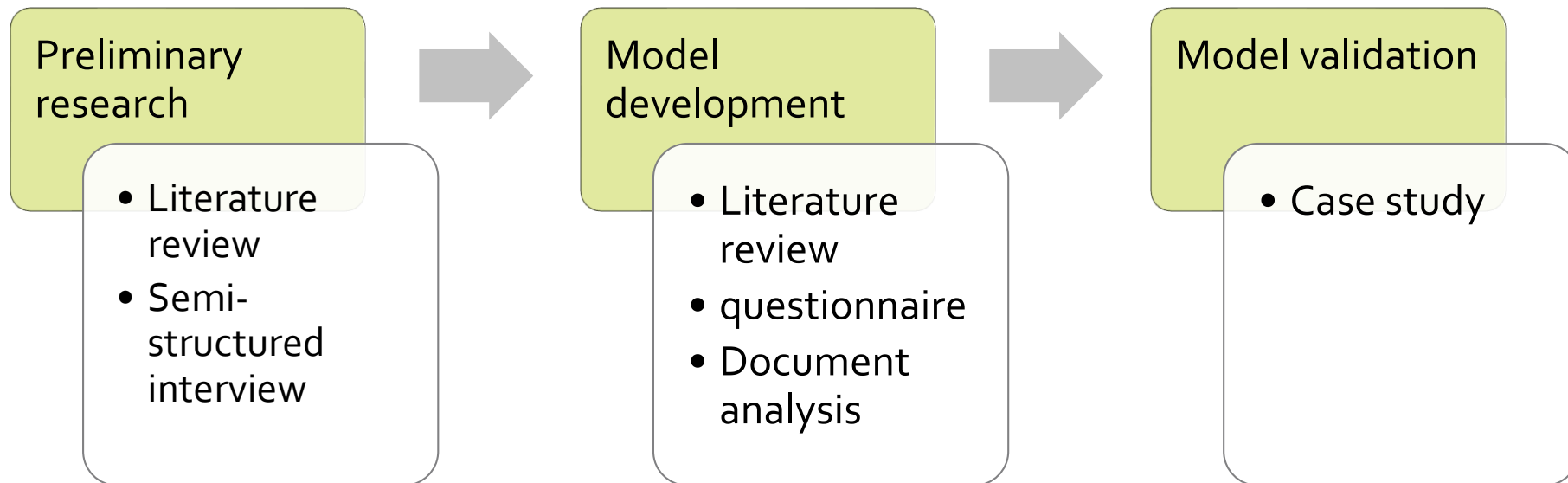
Literature review

TPI modelling



Research Design

Research Approach



Preliminary Findings

- Factors affecting tender price accuracy:
 - labour cost, material cost, plant cost
 - Development cost, cost fluctuation, interest rate, exchange rate
 - Market conditions
- No adoption of TPI system, lack of cost forecast activities.

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*Thank
You*