



MEASURING PROJECT VALUE: A REVIEW OF CURRENT PRACTICES AND RELATION TO PROJECT SUCCESS

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1. Introduction

General overview

- Different interpretations of project value and what constitutes it are found;
- Project value was associated with owners' needs and objectives;
- Project value has a broader meaning which encompasses the various needs, requirements, and visions of the different stakeholders;

“Value is not something that can be made explicit once and for all” Thyssen et al. (2010, p29)



1. Introduction

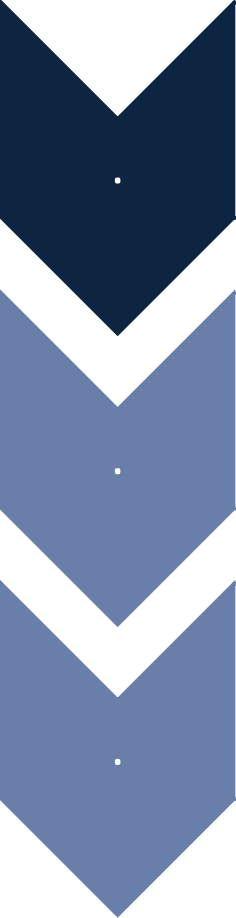
Gap in the Literature

- Most studies focus on value creation and value capturing early on projects but fail to explain the fact that during the project delivery, there is often a value loss due to improper tracking or measuring of the development of value.

Lack of a clear approach to quantify value over the project different phases and have a comprehensive method for tracking of project value as the project progresses.



2. Objectives

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- (1) Exploring the literature on value creation, quantification, and measurement;
 - (2) Extracting methods and strategies for measuring and monitoring value from the construction industry and other industries; and
 - (3) Suggesting future directions and strategies for effective measurements of value on projects within the different project phases.



3. Methodology

A review of literature was conducted;

A similar approach to the scoping review was utilized;

A critical review and key assessment of the methods was performed;

Abductive reasoning was used to develop a model describing the dimensions and proposed indicators for measuring value.



4. Background on Measuring Value

4.1 WHY MEASURE PROJECT VALUE: RELATION TO PROJECT SUCCESS

“To work effectively, people need to see the value in what they do”
(Kliniotou 2004)

- There is a new shift in understanding project performance: to embed the value performance (Tezel et al. 2018).
- In lean philosophy, adding value is an important foundation of project success.
- Construction projects are dynamic systems involving a large number of interested stakeholders.

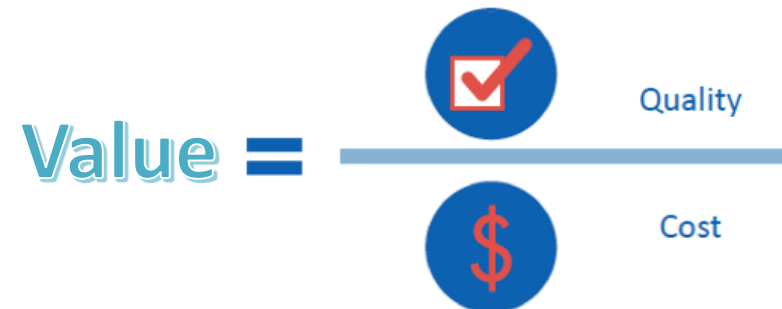


4. Background on Measuring Value

4.2 HOW PROJECT VALUE IS MEASURED

Project value is the negotiated and collective guiding principles that are expressed by different stakeholders and from which the assessment of the project success is considered.

Understanding the concept of perceived project value helps in deciding on methods to measure it.

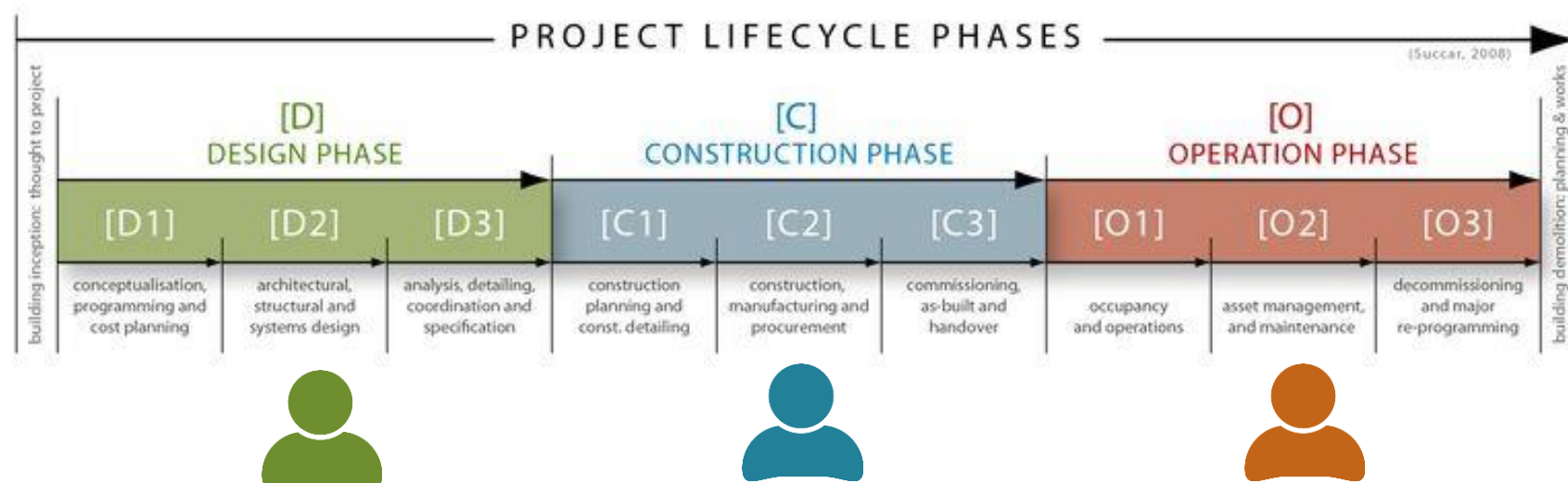
$$\text{Value} = \frac{\text{Quality}}{\text{Cost}}$$




4. Background on Measuring Value

4.3 WHEN CAN PROJECT VALUE BE MEASURED

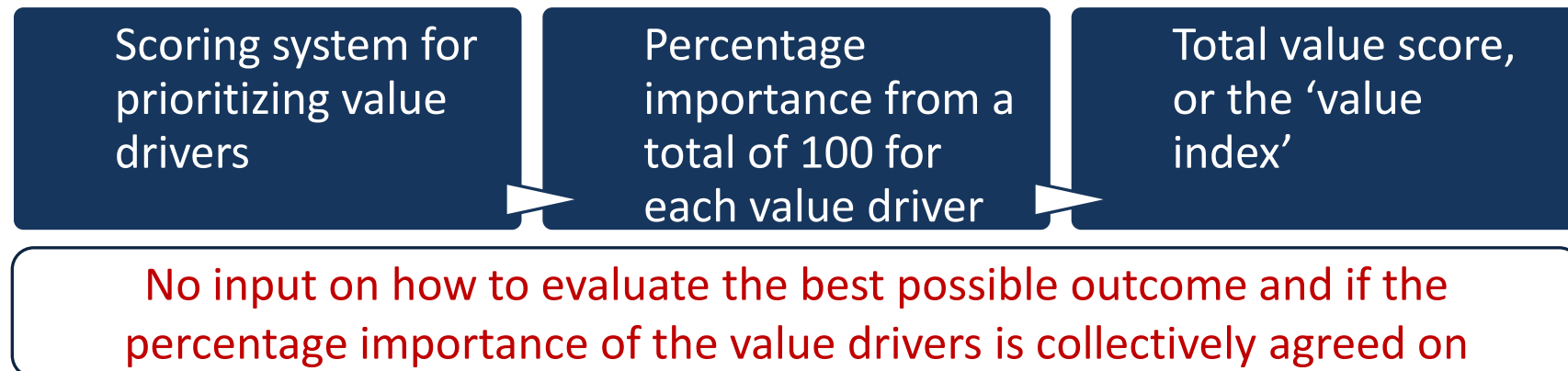
Value is said to be envisioned during the design phase, it is said to be harnessed during the construction phase, and finally, it is an experienced value during the use or operation phase (Devine-Wright et al. 2003).



5. Overview of the Measurements Discussed in the Construction Literature

7 major studies were found to be of relevance to the topic of measuring value, the key concepts in each are highlighted, and then a critical assessment is provided:

1- Kliniotou (2004)- Loughborough University:



5. Overview of the Measurements Discussed in the Construction Literature

2- Lin and Shen (2007):

Available measurements for assessing the performance of value management VM.

Identifying the CSFs and KPIs to measure and achieve the objectives of the VM.

Too general and focus on value management approach

3- X. Zhang et al. (2013):

Integrative approach that helps in value-driven traceability, value-driven trade-off capability, and intangible value attention.

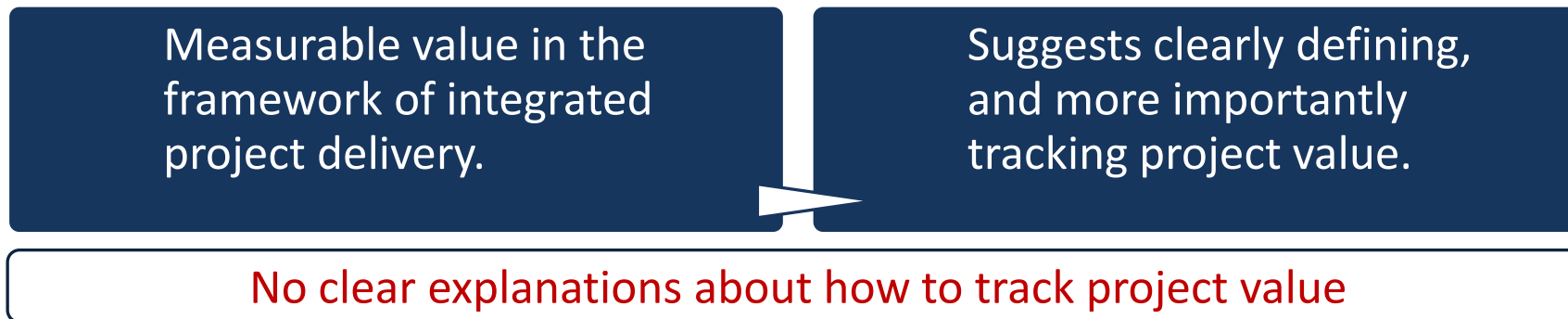
Means-end analysis, part-whole analysis, multi-attribute utility theory.

Hard to transform subjective customer statements into measurable value

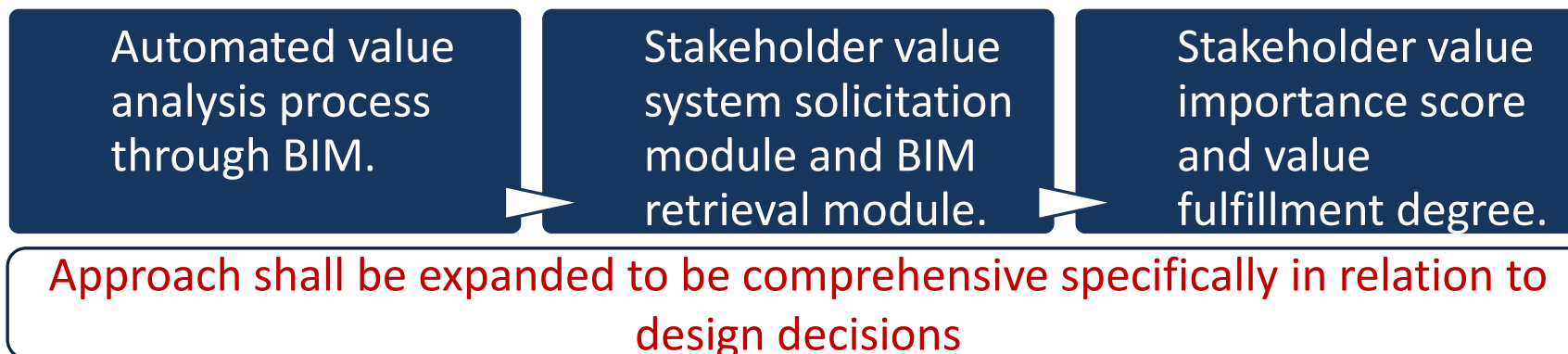


5. Overview of the Measurements Discussed in the Construction Literature

4- Fischer et al. (2014):

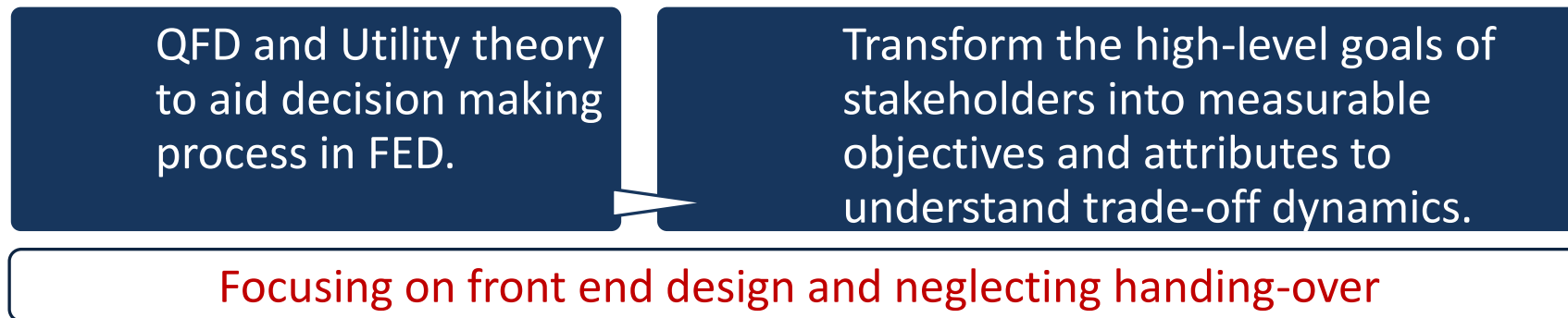


5- Zhang and El-Gohary (2017):



5. Overview of the Measurements Discussed in the Construction Literature

6- Serugga et al. (2019):



7- Giménez et al. (2019):



6. Proposed Measurements from Other Domains

Business Management

- Balanced score card tool
- Focuses on the intangible assets that need to be integrated in companies management system.

Aerospace Industry

- ‘Stakeholder Value Network’ analysis
- Value network is used to understand the interaction between the different stakeholders by capturing the value flows and value loops.

IT sector

- Benefits Realization
- Relating the benefits in benefit dependency maps, prioritizing paths, determining the enablers, and using assessment matrices and measures to track performance.

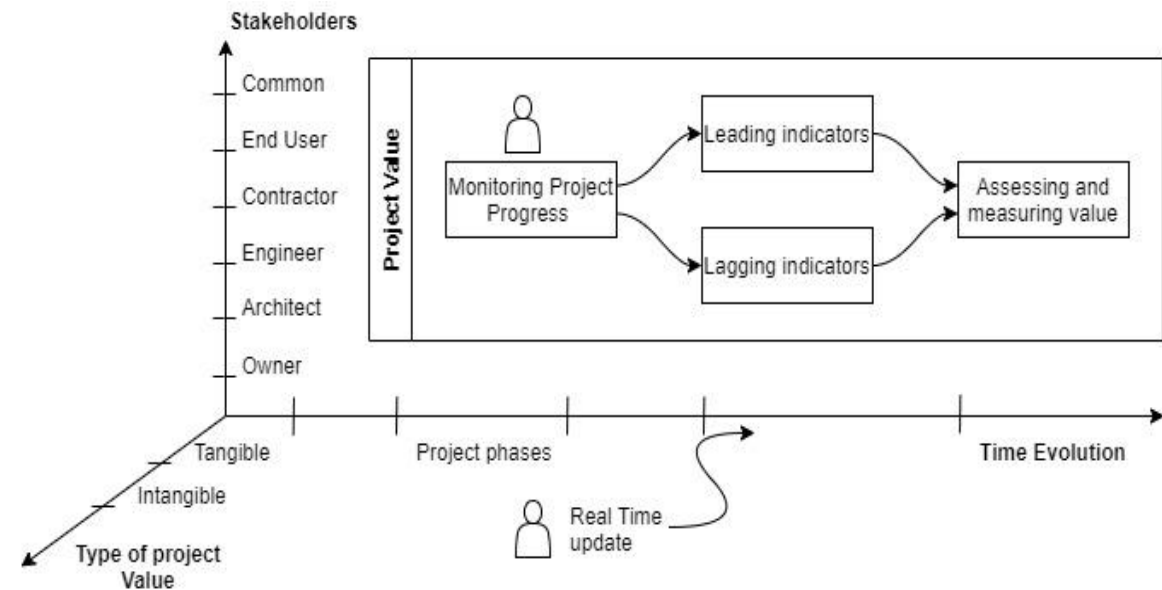
7. New Directions for the Evaluation and Measurement of Project Value

Value leading indicators (VLead):

- number of involved stakeholders
- number and level of interaction
- percentage agreement after meetings
- number of newly suggested design ideas

Value lagging indicators (VLagg):

- fast client approval cycles
- reduced conflicts during construction
- reduced changes during construction
- reduced number of RFIs



Dimensions for assessing and measuring value



7. New Directions for the Evaluation and Measurement of Project Value

Final

1. Identify value flows between the different involved stakeholders through a **network for structuring needs** and requirements; update throughout project phases.
2. Apply relevant approaches including the utility theory and the means-ends methods to **prioritize constituents of project value** and translate them into suggested design solutions.
3. **Identify value drivers** with their respective weights and a range for the lowest acceptable level and the highest desired level.
4. Specify **customized metrics for tracking** the assigned value drivers
5. Establish a **data Acquisition system** to track suggested metrics and other relevant information to evaluate **VLead and VLagg indicators**. Apply proactive measures based on results from VLead indicators and reactive measures after the VLagg indicators.



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Thank You!

