THE APPLICATION OF LEAN CONCEPTS TO MEET GBI STANDARD IN CONSTRUCTION PROJECT

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ABSTRACT

Lean concept is one of old innovation that until now still practice in various industry to achieved the certain goal. Lean also used in construction industry to reduce waste but still has the quality needed. Lean has many theories that used in many industries like 5S and kaizen that assist industries in manage the resource with more effective and efficient. The lean used in construction project will able meet the criteria of Green Building Index (GBI) assessment. GBI is new rating tool in Malaysia to assessment the building whether the building is suitable to get status like silver, gold, and platinum. The significant of this study is to identify whether lean is implement in construction project and the impact of lean to the GBI assessment criteria. The respondent involve in this study are construction company G7 because they more active involve in many project and has more experience. Objective in this study is achieved after result indicate positive findings.

INTRODUCTION

- This study focus on the findings the implementation of lean in the construction project and their impact to GBI assessment criteria
- Respondent are G7 construction company registered with CIDB in Kuantan, Pahang

OBJECTIVE/S

1. To identify the implementation of lean concept in the construction project.
2. To determine the impact of lean concept to the Green Building Index (GBI) assessment criteria.

METHODS

Pilot test – using SPSS
trial run to identify the potential mistake in questionnaire to improve it
Demographic Analysis – using SPSS
To find frequency and percentage and present using pie chart
Reliability Analysis – using SPSS
To find internal consistency using Cronbach's Alpha
Mean Analysis – using SPSS
To find the average of each statement

RESULTS

Based on Krejcie and Morgan, 1970 the is Population: 75 Sample size: 63

$$\text{Response rate} : \frac{44}{63} \times 100\% = 69.84\%$$

Pilot test

Section	Cronbach's Alpha	N of Items
Section B	.491	12
Section C	.511	10

Cronbach alpha test

Section	Cronbach's Alpha	N of Items
Section B	0.710	12
Section C	0.802	12

Demographic Analysis for Section A

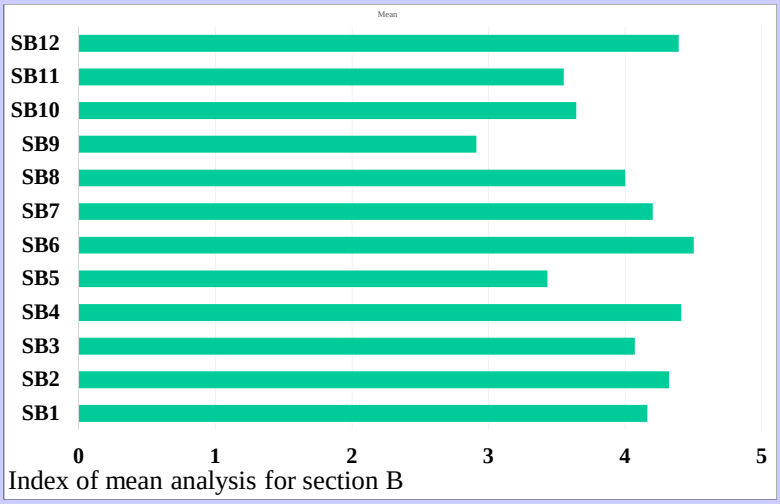
Gender	Male	77.27%	34
Age	31-40 YO	56.82%	25
Education	Degree	68.18%	30
Position	Other	45.45%	20
Experience	6-10 Y	34.09%	15
Expertise	Other	36.36%	16
Age of Company	6-15 Y	50.00%	22

Mean analysis summary

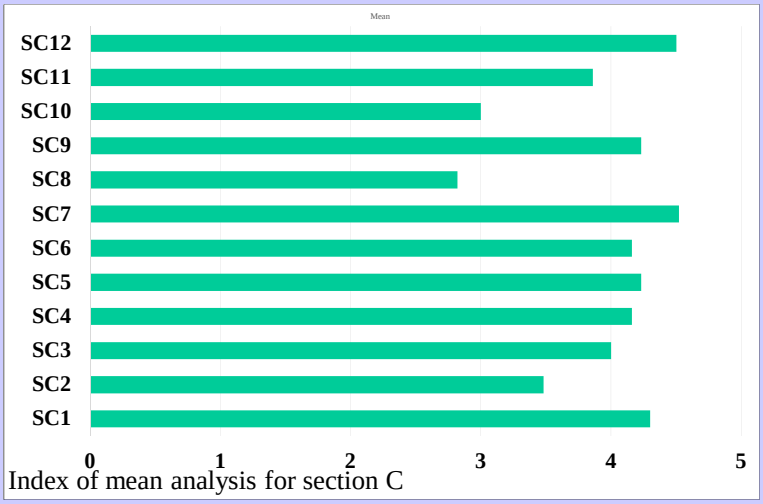
Energy Efficiency	4.30
Indoor Environmental Quality	3.48
Sustainable Site Planning & Management	4.14
Materials & Resource	3.64
Water Efficiency	3.86
Innovation	4.50

EE: SC1
IEQ: SC2
SSPM: SC3 - 6
MR: SC7 – 10
WE: SC11
Inno: SC12

Section	Mean	Minimum	Maximum
Section B	3.964	2.909	4.500
Section C	3.986	2.818	4.523



Index of mean analysis for section B



Index of mean analysis for section C

CONCLUSIONS AND RECOMMENDATION

- The objective of this study has been meet where the result show agree with certain statement
- The lean concept in construction will bring numerous benefit

Recommendation:

- Need explore more because Lean in construction still new and lot of potential where same like GBI.
- Expand and find more respondent to better result