Comparative Analysis of the Costs (RAB) Budget Development Project in Surabaya

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ABSTRACT

In the construction of a building, one of which is a mosque, it does require efficiency on the budget plan, so that development can be completed to the maximum with optimal time and little cost. The purpose of this study is to find out the ratio of labor wage coefficients between the Budget Plan (RAB), BOW and Implementation; Knowing the comparison and the difference in the number of unit prices of labor wages; Find out the cause of the difference in price. Data processing is done by literature method, documentation, conducting field observations and conducting interviews. The results of the work include formwork column K1 (thread D19) foreman coefficient ratio in RAB Offer with Implementation that is equal to 1.21, while BOW with Implementation is 0.37. Then for the wages of reinforced concrete deck work Lt. 2 12cm thick K-250 with an area of 41.05 m3 the difference between the RAB of the Offer and the Implementation of Rp. 36,263,855.91 (64.4%), while the difference between BOW and Implementation is Rp. 138,619,043.82 (87.4%). The magnitude of the ratio of ratios and differences in the budget for wage costs is influenced by many factors: labor wage prices, quantity or amount of labor used in the project, skill level and age of the workforce, and high interest in workforce employment.

Keywords: Budget plan, coefficients, wages, labor.

I. INTRODUCTION

The purpose of planning a building is to get a strong building construction, in terms of construction and development costs are cheaper and do not rule out the beauty of the building. One of them in planning the construction of mosques, construction and construction costs must be considered. Therefore the Budget Plan (RAB) must be more accurately and accurately calculated, to obtain strong construction for the next few years. Baitul Makmur Mosque UNESA Surabaya is a mosque that is within the UNESA and managed by UNESA. In connection with the growth of the population accompanied by the growth in the number of students conducting academic processes, every year the number of UNESA students increases. So that in 2014, UNESA had already drafted the development of the Baitul Makmur Mosque and was realized in 2018.

1.1 Formulation of the problem

1. What is the ratio of labor wage coefficients between RAB Offers from contractors (SNI / HSPK 2018 method), BOW and Implementation in the field in the UNESA Baitul Makmur Mosque construction project?
2. What is the ratio of labor wage coefficients between RAB Offers from contractors (SNI / HSPK 2018 method), BOW and Implementation in the field in the UNESA Baitul Makmur Mosque construction project?
3. What is the reason for the difference in the unit price of labor wage work between the RAB of Bid, BOW and Implementation in the field in the construction project of the UNESA Baitul Makmur Mosque?
1.3 Scope of problem

1. The research object will be carried out on the UNESA Baitul Makmur Mosque construction project
2. Calculation of wage coefficient and total unit price of labor wage work include: column structure work and plate structure of deck floor 2
3. This study only compares the index of labor wage coefficients and the total unit price of labor wage work based on the RAB of Bid, BOW and Implementation in the field.

II. LITERATURE REVIEW

A complete and meticulous project budget plan is a budget plan made by the contractor as the implementation of the work. This is understandable because the contractor wants to get a job with a reasonable profit. In general, the project RAB component consists of direct costs and indirect costs (Dani Hasan, H.S & Suryanto Mas, 2003:114-119).

2.1 Analysis SNI (Standard National Indonesia)

Analysis SNI (Standard National Indonesia) is an analysis which is the result of research conducted by experts in the center of settlement research and development as one of the government provisions in Indonesia in supporting the efforts of both central and regional governments in streamlining development funds as well as formulations for determining the unit price of each type of work.

2.2 Analysis Price of Field Units

According to Suryaningrum (2012), cost estimation is the process of calculating the volume of work, prices of various types of materials and work that will occur on a construction. Because estimates are made before the start of construction, the total cost obtained is estimated not the actual cost.

To determine the magnitude of the coefficient unit of labor wages, we need to pay attention to the basic assumption values. In determining the size of the wage coefficient there are a number of things to know about:

a. Work productivity (work results)

The productivity formula defined by Suyadi (2009) is as follows:

\[ \text{Productivity} = \frac{\text{Area of Work Volume}}{\text{Total of Worker}} \]

b. Labor or workers

To calculate the wage coefficient value using the following formula:

\[ \text{Coefficient} = \frac{\text{Total of Worker}}{\text{Area of Work Volume}} \]
III. RESEARCH METHODS

This research method uses descriptive quantitative methods. A flow chart for problem solving can be shown in the following figure:

![Flow Chart](image)

**Picture 1. Picture of Final Project Compilation Flow Chart**

IV. RESULTS AND DISCUSSION

The main objective in this study is to find out what method is most suitable for the UNESA Baitul Makmur Mosque Construction Project.

4.1 Results of Labor Productivity Analysis

When conducting a productivity calculation analysis, data collection and observation of each work in the field will first be carried out. These data include work volume of work items, length of observation in 1 day working hours, amount of area that can be completed, and the number of workers involved in implementing each item of work in the field.

Job items obtained during observations in the field:

1. Ironing column K1 with iron D19 mm
2. Ironing column K1 with iron Ø10 mm
3. Formwork Column K1 (55 x 55)
4. Cast work Column K1 f′c'=20.75 MPa (K250)
5. Ironing Plate 2nd floor (concrete) Ø10 mm
6. Ironing Plate 2nd floor (concrete) ø8 mm
7. Formwork Plate 2nd floor thick 12cm
8. Cast work Plate 2nd floor (concrete) thick 12cm f’c’=20,75 MPa (K250)

Table 1. Workforce Productivity Coefficient in the Field

| Type of work          | Ironing column K1 with iron Ø19 mm | Ironing column K1 with iron Ø10 mm |
|-----------------------|------------------------------------|------------------------------------|
| **A. Type of work**   |                                    |                                    |
| **Ironing column K1 with iron Ø19 mm** |                                    |                                    |
| Observation Date      | Volume                | Total of Workers | Productivity Coefficient | Foreman | Head of Handyman | Handyman | Prentice | Foreman | Head of Handyman | Handyman | Prentice |
| 30/10/2018            | 399,79                 | 1                | 1                   | 1                   | 2       | 0.0006          | 0.0025 | 0.0025 | 0.0050 |
| 01/11/2018            | 333,16                 | 1                | 1                   | 1                   | 2       | 0.0008          | 0.0030 | 0.0030 | 0.0060 |
| 02/11/2018            | 373,14                 | 1                | 1                   | 1                   | 2       | 0.0007          | 0.0027 | 0.0027 | 0.0054 |
| 03/11/2018            | 426,45                 | 1                | 1                   | 1                   | 2       | 0.0006          | 0.0023 | 0.0023 | 0.0047 |
| 05/11/2018            | 333,16                 | 1                | 1                   | 1                   | 2       | 0.0008          | 0.0030 | 0.0030 | 0.0060 |
| **Average productivity coefficient** | 0.0007          | 0.0027 | 0.0027 | 0.0054 |

| B. Type of work       | Ironing column K1 with iron Ø10 mm |                                    |
|-----------------------|------------------------------------|                                    |
| Observation Date      | Volume                | Total of Workers | Productivity Coefficient | Foreman | Head of Handyman | Handyman | Prentice | Foreman | Head of Handyman | Handyman | Prentice |
| 30/10/2018            | 128,98                 | 1                | 1                   | 1                   | 2       | 0.0019          | 0.0078 | 0.0078 | 0.0155 |
| 01/11/2018            | 106,84                 | 1                | 1                   | 1                   | 2       | 0.0023          | 0.0094 | 0.0094 | 0.0187 |
| 02/11/2018            | 119,66                 | 1                | 1                   | 1                   | 2       | 0.0021          | 0.0084 | 0.0084 | 0.0167 |
| 03/11/2018            | 136,75                 | 1                | 1                   | 1                   | 2       | 0.0018          | 0.0073 | 0.0073 | 0.0146 |
| 05/11/2018            | 107,49                 | 1                | 1                   | 1                   | 2       | 0.0023          | 0.0093 | 0.0093 | 0.0186 |
| **Average productivity coefficient** | 0.0021          | 0.0084 | 0.0084 | 0.0168 |
### C. Type of work: Formwork Column K1 (55 x 55)

| Observation Date | Volume | Foreman | Head of Handyman | Handyman | Prentice | Foreman | Head of Handyman | Handyman | Prentice |
|------------------|--------|---------|------------------|----------|----------|---------|------------------|----------|----------|
| 05/11/2018       | 10.96  | 1       | 1                | 1        | 2        | 0.0228  | 0.0913          | 0.0913   | 0.1825   |
| 06/11/2018       | 8.22   | 1       | 1                | 1        | 2        | 0.0304  | 0.1217          | 0.1217   | 0.2434   |
| 07/11/2018       | 8.22   | 1       | 1                | 1        | 2        | 0.0304  | 0.1217          | 0.1217   | 0.2434   |
| 08/11/2018       | 10.96  | 1       | 1                | 1        | 2        | 0.0228  | 0.0913          | 0.0913   | 0.1825   |
| 09/11/2018       | 8.22   | 1       | 1                | 1        | 2        | 0.0304  | 0.1217          | 0.1217   | 0.2434   |
| **Average productivity coefficient** | | | | | | | | | 0.0274 |

### D. Type of work: Cast work Column K1 f’c'=20.75 MPa (K250)

| Observation Date | Volume | Foreman | Head of Handyman | Handyman | Prentice | Foreman | Head of Handyman | Handyman | Prentice |
|------------------|--------|---------|------------------|----------|----------|---------|------------------|----------|----------|
| 14/11/2018       | 19.58  | 1       | 1                | 3        | 3        | 0.0073  | 0.0511          | 0.1532   | 0.1532   |
| **Average productivity coefficient** | | | | | | | | | 0.0073 |

### E. Type of work: Ironing Plate 2nd floor (concrete) Ø10 mm

| Observation Date | Volume | Foreman | Head of Handyman | Handyman | Prentice | Foreman | Head of Handyman | Handyman | Prentice |
|------------------|--------|---------|------------------|----------|----------|---------|------------------|----------|----------|
| 27/11/2018       | 175.94 | 1       | 1                | 2        | 2        | 0.0011  | 0.0057          | 0.0114   | 0.0114   |
| 28/11/2018       | 189.32 | 1       | 1                | 2        | 2        | 0.0011  | 0.0053          | 0.0106   | 0.0106   |
| 29/11/2018       | 163.79 | 1       | 1                | 2        | 2        | 0.0012  | 0.0061          | 0.0122   | 0.0122   |
| **Average productivity coefficient** | | | | | | | | | 0.0011 |

### F. Type of work: Ironing Plate 2nd floor (concrete) Ø8 mm

| Observation Date | Volume | Foreman | Head of Handyman | Handyman | Prentice | Foreman | Head of Handyman | Handyman | Prentice |
|------------------|--------|---------|------------------|----------|----------|---------|------------------|----------|----------|
| 27/11/2018       | 112.69 | 1       | 1                | 2        | 2        | 0.0018  | 0.0089          | 0.0177   | 0.0177   |
| 28/11/2018       | 121.27 | 1       | 1                | 2        | 2        | 0.0016  | 0.0092          | 0.0165   | 0.0165   |
| 29/11/2018       | 104.91 | 1       | 1                | 2        | 2        | 0.0019  | 0.0095          | 0.0191   | 0.0191   |
| **Average productivity coefficient** | | | | | | | | | 0.0018 |

### G. Type of work: Formwork Plate 2nd floor thick 12cm

| Observation Date | Volume | Foreman | Head of Handyman | Handyman | Prentice | Foreman | Head of Handyman | Handyman | Prentice |
|------------------|--------|---------|------------------|----------|----------|---------|------------------|----------|----------|
| 27/11/2018       | 34.48  | 1       | 1                | 1        | 2        | 0.0073  | 0.0290          | 0.0290   | 0.0580   |
| 28/11/2018       | 37.85  | 1       | 1                | 1        | 2        | 0.0066  | 0.0264          | 0.0264   | 0.0528   |
| 29/11/2018       | 31.11  | 1       | 1                | 1        | 2        | 0.0080  | 0.0321          | 0.0321   | 0.0643   |
| **Average productivity coefficient** | | | | | | | | | 0.0073 |

### H. Type of work: Cast work Plate 2nd floor (concrete) thick 12cm f’c'=20.75 MPa (K250)

| Observation Date | Volume | Foreman | Head of Handyman | Handyman | Prentice | Foreman | Head of Handyman | Handyman | Prentice |
|------------------|--------|---------|------------------|----------|----------|---------|------------------|----------|----------|
| 05/12/2018       | 41.05  | 1       | 4                | 10       | 15       | 0.0008  | 0.0975          | 0.2436   | 0.3654   |
| **Average productivity coefficient** | | | | | | | | | 0.0008 |
### 4.2 Comparison of Workers’ Wage Coefficients between RAB Offers, BOW and Implementation

The following is the analysis of the work unit price coefficient index in 2018 on the construction project of the Baitul Makmur Unesa Mosque, Surabaya.

#### Table 2. Analysis of the Coefficient of Employment Unit Price Index in 2018

| NO. | DESCRIPTION OF ACTIVITIES | OFFER COEFFICIENTS | BOW COEFFICIENTS | IMPLEMENTATION COEFFICIENT | UNIT | RATIO OFFERING WITH IMPLEMENTATION | RATIO BOW WITH IMPLEMENTATION |
|-----|---------------------------|--------------------|------------------|-----------------------------|------|----------------------------------|-------------------------------|
|     |                           | 1                  | 2                | 3                            | 4    | 5                                | 6                            | 7 = 3 : 5                      | 8 = 4 : 5                      |
| A.  | Ironing column K1 with iron D19 mm  | 0.0004             | 0.0007           | M.H                          | 0.59 | 0.00                           |                               |                               |                               |
|     | Salary: Foreman             | 0.0004             | 0.0007           | M.H                          | 0.59 | 0.00                           |                               |                               |                               |
|     | Head of Handyman            | 0.0470             | 0.0000           | 0.0054                       | M.H  | 1.26                           |                               |                               |                               |
|     | Prentice                    | 0.0470             | 0.0000           | 0.0054                       | M.H  | 1.26                           |                               |                               |                               |
| B.  | Ironing column K1 with iron ø10 mm  | 0.0007             | 0.0008           | M.H                          | 0.59 | 0.00                           |                               |                               |                               |
|     | Salary: Foreman             | 0.0004             | 0.0008           | M.H                          | 0.59 | 0.00                           |                               |                               |                               |
|     | Head of Handyman            | 0.0470             | 0.0000           | 0.0054                       | M.H  | 1.26                           |                               |                               |                               |
|     | Prentice                    | 0.0470             | 0.0000           | 0.0054                       | M.H  | 1.26                           |                               |                               |                               |
| C.  | Formwork Column K1 (55 x 55) | 0.0330             | 0.0500           | 0.1095                       | M.H  | 0.30                           | 0.46                          |                               |                               |
|     | Salary: Foreman             | 0.0330             | 0.0500           | 0.1095                       | M.H  | 0.30                           | 0.46                          |                               |                               |
|     | Head of Handyman            | 0.0330             | 0.0500           | 0.1095                       | M.H  | 0.30                           | 0.46                          |                               |                               |
|     | Prentice                    | 0.0330             | 0.0500           | 0.1095                       | M.H  | 0.30                           | 0.46                          |                               |                               |
| D.  | Cast work Column K1 f’c=20,75 MPa (K250)  | 0.0830             | 0.3000           | 0.0073                       | M.H  | 11.33                          | 41.13                         |                               |                               |
|     | Salary: Foreman             | 0.0830             | 0.3000           | 0.0073                       | M.H  | 11.33                          | 41.13                         |                               |                               |
|     | Head of Handyman            | 0.0280             | 0.1000           | 0.0511                       | M.H  | 0.55                           | 1.96                          |                               |                               |
|     | Prentice                    | 0.0280             | 0.1000           | 0.0511                       | M.H  | 0.55                           | 1.96                          |                               |                               |
| E.  | Ironing Plate 2nd floor (concrete) ø10 mm  | 0.0004             | 0.0011           | M.H                          | 0.35 | 0.00                           |                               |                               |                               |
|     | Salary: Foreman             | 0.0004             | 0.0011           | M.H                          | 0.35 | 0.00                           |                               |                               |                               |
|     | Head of Handyman            | 0.0007             | 0.0300           | 0.0057                       | M.H  | 0.12                           | 5.27                          |                               |                               |
|     | Prentice                    | 0.0007             | 0.0300           | 0.0057                       | M.H  | 0.12                           | 5.27                          |                               |                               |
| F.  | Ironing Plate 2nd floor (concrete) ø8 mm  | 0.0004             | 0.0018           | M.H                          | 0.35 | 0.00                           |                               |                               |                               |
|     | Salary: Foreman             | 0.0004             | 0.0018           | M.H                          | 0.35 | 0.00                           |                               |                               |                               |
|     | Head of Handyman            | 0.0007             | 0.0200           | 0.0049                       | M.H  | 0.08                           | 3.26                          |                               |                               |
|     | Prentice                    | 0.0007             | 0.0200           | 0.0049                       | M.H  | 0.08                           | 3.26                          |                               |                               |
| G.  | Formwork Plate 2nd floor thick 12cm  | 0.0330             | 0.5000           | 0.1532                       | M.H  | 1.80                           | 6.33                          |                               |                               |
|     | Salary: Foreman             | 0.0330             | 0.5000           | 0.1532                       | M.H  | 1.80                           | 6.33                          |                               |                               |
|     | Head of Handyman            | 0.0330             | 0.5000           | 0.1532                       | M.H  | 1.80                           | 6.33                          |                               |                               |
|     | Prentice                    | 0.0330             | 0.5000           | 0.1532                       | M.H  | 1.80                           | 6.33                          |                               |                               |
| H.  | Cast work Plate 2nd floor (concrete) thick 12cm f’c=20,75 MPa (K250)  | 0.0830             | 0.3000           | 0.0073                       | M.H  | 11.33                          | 41.13                         |                               |                               |
### 4.3 Results of Difference in Amount of Price of Work Unit between RAB of Bid, BOW and Implementation

Table 3. Offer and Implementation RAB Wage Unit Price List

| NO | DESCRIPTION OF ACTIVITIES | UNIT | OFFER COEFFICIENT | BOW COEFFICIENT | IMPLEMENTATION COEFFICIENT | TOTAL OFFER PRICE | TOTAL BOW PRICE | TOTAL IMPLEMENTATION PRICE | DIFFERENCE OFFER PRICE WITH IMPLEMENTATION | DIFFERENCE BOW PRICE WITH IMPLEMENTATION |
|----|----------------------------|------|-------------------|-----------------|----------------------------|------------------|----------------|--------------------------|------------------------------------------|------------------------------------------|
|    |                            |      |                   |                 |                             |                  |                |                          |                                          |                                          |
| 1  |                            |      |                   |                 |                             |                  |                |                          |                                          |                                          |
| 2  |                            |      |                   |                 |                             |                  |                |                          |                                          |                                          |
| 3  |                            |      |                   |                 |                             |                  |                |                          |                                          |                                          |
| 4  |                            |      |                   |                 |                             |                  |                |                          |                                          |                                          |
| 5  |                            |      |                   |                 |                             |                  |                |                          |                                          |                                          |
| 6  |                            |      |                   |                 |                             |                  |                |                          |                                          |                                          |
| 7  |                            |      |                   |                 |                             |                  |                |                          |                                          |                                          |

### Notes:

- **Table A**: Frame column with 10D atm
  - **Offer**: M.H 0.0008  0.0007 Rp 48 Rp 78 Rp 88 Rp 83 Rp 70 Rp 72
  - **BOW**: M.H 0.0017  0.0100 Rp 81 Rp 3.45 Rp 271 Rp 180 Rp 3.579
  - **Implementation**: M.H 0.0000  0.0007 Rp 78 Rp 10.12 Rp 38 Rp 54 Rp 9.983

- **Table B**: Frame column with 10D atm
  - **Offer**: M.H 0.0000  0.0020 Rp 48 Rp 78 Rp 282 Rp 198 Rp 262
  - **BOW**: M.H 0.0001  0.0010 Rp 81 Rp 3.45 Rp 271 Rp 180 Rp 3.579
  - **Implementation**: M.H 0.0000  0.0010 Rp 78 Rp 10.12 Rp 38 Rp 54 Rp 9.983

- **Table C**: Stairwork Column K1 (STK 150)
  - **Offer**: M.H 0.0030  0.0010 Rp 78 Rp 10.12 Rp 38 Rp 54 Rp 9.983
  - **BOW**: M.H 0.0005  0.0007 Rp 78 Rp 10.12 Rp 38 Rp 54 Rp 9.983
  - **Implementation**: M.H 0.0030  0.0010 Rp 78 Rp 10.12 Rp 38 Rp 54 Rp 9.983

- **Table D**: Frame Plan 2nd floor (concrete) 12Lm
  - **Offer**: M.H 0.0004  0.0010 Rp 48 Rp 315 Rp 65 Rp 151
  - **BOW**: M.H 0.0007  0.0007 Rp 61 Rp 3.45 Rp 271 Rp 180 Rp 262
  - **Implementation**: M.H 0.0007  0.0007 Rp 78 Rp 10.12 Rp 38 Rp 54 Rp 9.983

- **Table E**: Frame Plan 2nd floor with 12Lm
  - **Offer**: M.H 0.0004  0.0010 Rp 48 Rp 315 Rp 65 Rp 151
  - **BOW**: M.H 0.0007  0.0007 Rp 61 Rp 3.45 Rp 271 Rp 180 Rp 262
  - **Implementation**: M.H 0.0007  0.0007 Rp 78 Rp 10.12 Rp 38 Rp 54 Rp 9.983

- **Table F**: Stairwork Plan 2nd floor (concrete) 12Lm
  - **Offer**: M.H 0.0010  0.0010 Rp 78 Rp 10.12 Rp 38 Rp 54 Rp 9.983
  - **BOW**: M.H 0.0005  0.0007 Rp 78 Rp 10.12 Rp 38 Rp 54 Rp 9.983
  - **Implementation**: M.H 0.0005  0.0007 Rp 78 Rp 10.12 Rp 38 Rp 54 Rp 9.983

### Salary Concrete Column K1 (STK 150) K-254

- **Offer**: Rp 467.56 Rp 67.44 Rp 60.28 Rp 3.32 Rp 9.855 Rp 35.665
- **BOW**: Rp 34.68 Rp 31.25 Rp 4.36 Rp 34.68 Rp 31.25 Rp 4.36
- **Implementation**: Rp 238.59 Rp 238.59 Rp 238.59 Rp 238.59 Rp 238.59 Rp 238.59

### Salary Concrete Plan 2nd floor (concrete) 12Lm K-254

- **Offer**: Rp 167.89 Rp 236.78 Rp 33.92 Rp 167.89 Rp 236.78 Rp 33.92
- **BOW**: Rp 167.89 Rp 236.78 Rp 33.92 Rp 167.89 Rp 236.78 Rp 33.92
- **Implementation**: Rp 167.89 Rp 236.78 Rp 33.92 Rp 167.89 Rp 236.78 Rp 33.92

### Table 4. Recapitulation of Employment Wage Budget

| DE SCRIPTION OF ACTIVITIE S | ACTIVITIE S | TOTAL UNIT PRICE OF WORK | TOTAL IMPLEMENTATION PRICE |
|----------------------------|-------------|--------------------------|---------------------------|
|                            |             |                          |                           |
|                            |             |                          |                           |
|                            |             |                          |                           |
|                            |             |                          |                           |
|                            |             |                          |                           |
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4.4 Factors affecting the Price of the Implementation Work Unit

1. List of labor wage unit prices
2. Quantity or amount of labor used in the project
3. The level of expertise and age of the workforce
4. High interest in labor for the work they are engaged

V. SUMMARY AND CONCLUSION

In the results of the research that has been carried out it can be concluded that:

1. Work on floor and column deck structure. 2 has a comparison of the magnitude of the ratio of the labor coefficient value is greater and smaller including the Work Formwork Column K1 (threaded D19) foreman coefficient ratio in RAB Offer with Implementation that is equal to 1.21 (greater RAB Offer), while BOW with Implementation 0.37 (smaller BOW). Work Formwork Column K1 carpenter head coefficient ratio on RAB Offer with Implementation that is equal to 0.3 (smaller RAB Bid), while BOW with Implementation is 0.46 (smaller BOW). Concrete Work Column K1 mason coefficient ratio on RAB Offer with Implementation that is equal to 1.8 (greater RAB Offer), while BOW with Implementation is 6.53 (greater BOW). Concrete Deck Plate Concrete Work Lt. 2 ratio of coefficients of worker / maid assistants to RAB Bidding with Implementation that is equal to 4.52 (greater RAB Bid), while BOW with Implementation is 16.42 (greater BOW)

2. The value of the unit price of labor wages also experiences a price comparison. Difference in unit price of labor wages between RAB Offer and Implementation in reinforced concrete work Column K1 55X55 K-250 with an area of 29.89 m3 of Rp. 12,755,208.79 (28.7% of RAB Offer) while the difference in the unit price of work between BOW and Implementation is Rp. 180,880,213.70 (85.1% of BOW). Then for the wages of reinforced concrete deck work Lt. 2 12cm thick K-250 with an area of 41.05 m3 the difference in the unit work price between the RAB of the Bid and the Implementation of Rp. 36,263,855.91 (64.4% of RAB Offer), while the difference in the unit price of work between BOW and Implementation is Rp. 138,619,043.82 (87.4% of BOW)

3. The magnitude of the ratio of the ratio and the difference in the budget for wage costs can be influenced by many factors, including the price of labor wages, the quantity or amount of labor used in the project, the level of expertise and age of the workforce, and the high interest in employment that he practiced.

Suggestions and Recommendations: In the results of the study it is known that there is a comparatively large value of wage unit prices between BOW analysis and Implementation, for project practitioners it is expected not to use BOW analysis in preparing a budget plan, but compiling using the latest SNI 2008 or
HSPK, so that the total cost of work in the RAB that has been prepared by the contractor can compete and win the tender.

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