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COMPARISON OF COST BUDGET ANALYSIS BETWEEN THE 2016 AHSP METHOD, AHSP 2022 METHOD AND THE CONTRACTOR'S CALCULATION METHOD ON THE WARUNG JATI RESTAURANT PROJECT, BEKASI CITY

M. Fanshurullah Asa(m.fanshurullahasa@universitaspertamina.ac.id) [1], M. Rizaldo Julian(rizaljul56@gmail.com) [2]

Program Studi Teknik Sipil, Universitas Pertamina[1,2]

Abstract

Currently, the culinary business is a form of business that is growing in big cities such as DKI Jakarta and its surrounding cities including Bekasi City, West Java. To build a place of business, it is necessary to calculate an efficient cost budget. Therefore, researchers want to determine the use of economical methods, budget differences, and the causes of differences in cost budget calculations on the Warung Jati Restaurant project, East Bekasi, using the 2016 AHSP, 2022 AHSP and Contractor Calculation methods. In this study, the main problem that makes the difference in the AHSP method is the difference in coefficient values both in labor and materials. Examples of differences in this study are ceramic work, sitting closet work, and site mix concrete work with molen. The results obtained from this study are the 2016 AHSP Method with the Contactor Method by 4.42%, then the difference between the 2022 AHSP and the Contactor Method is 3.92%, and the difference between the 2016 & 2022 AHSP is 0.51%. From the comparison of the cost budget value by following the AHSP standard, the cost budget value is more economical by using the AHSP 2022 method. However, when compared to the Contractor Method, the more economical of the three methods in calculating the cost of the Warung Jati Restaurant project is to use the Contractor Method.

Keywords: ***AHSP 2016, AHSP 2022, Contractor Method, Bill Of Quantity.***

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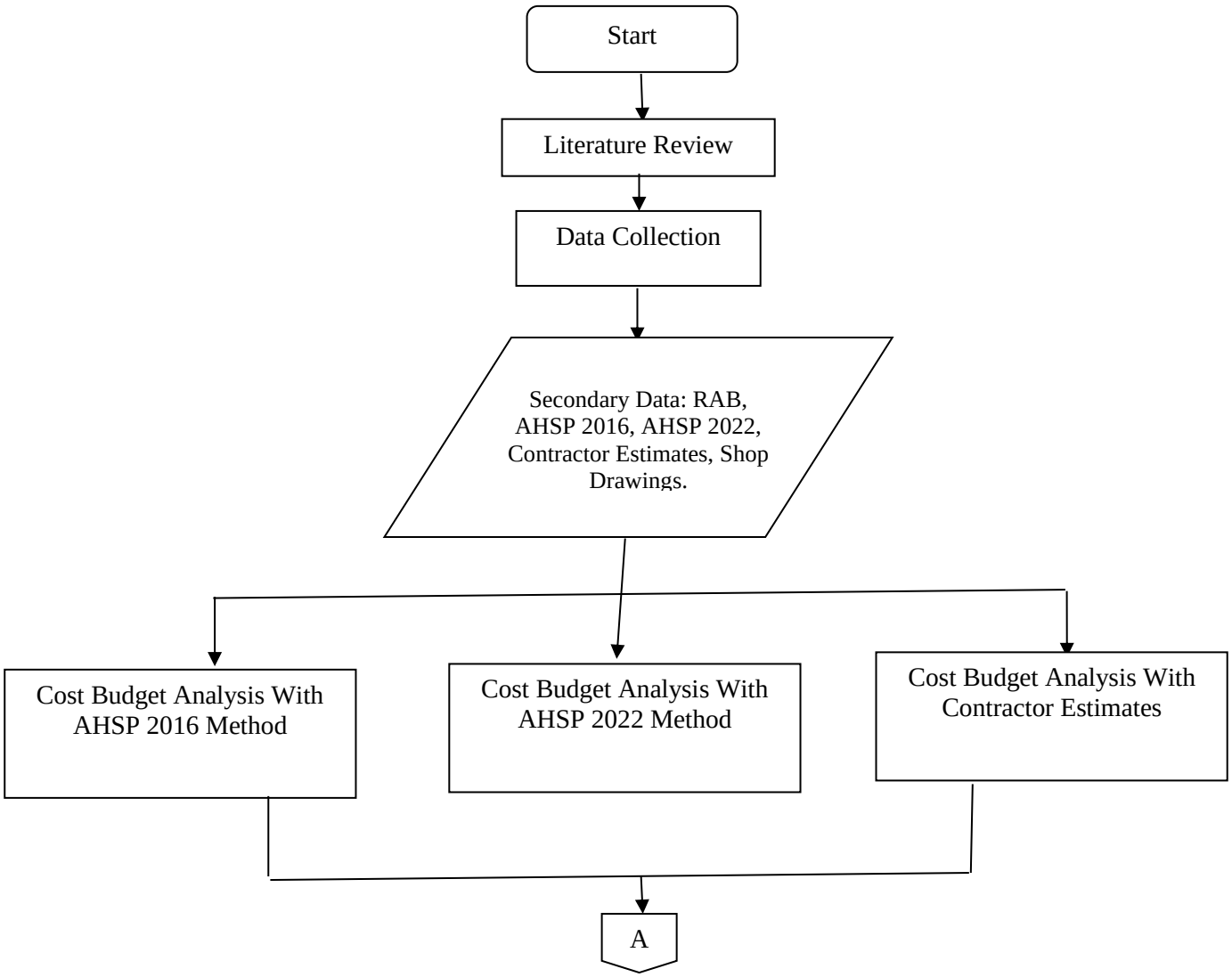
1. Introduction

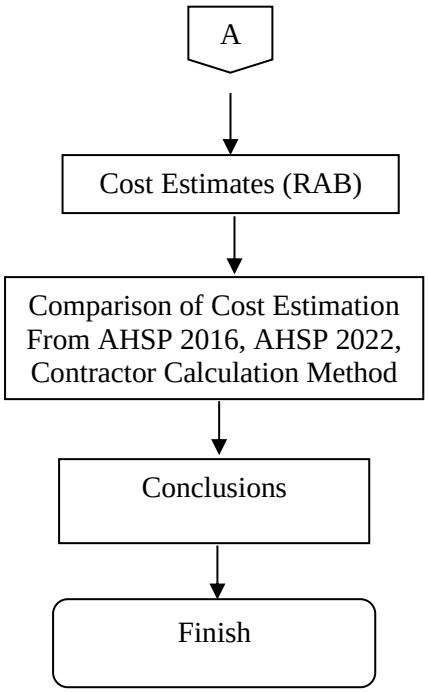
The cost budget is the process of calculating the volume of labor prices of various kinds of materials and work that occur in a construction because the estimate is made before construction begins, the total cost obtained is the estimated cost not the actual cost. Whether or not an estimated cost with the actual cost depends on the intelligence and decisions taken based on experience. The cost budget is the price of the building that is calculated carefully, carefully and qualified. The cost budget for the same building will vary in each region due to differences in material prices and labor wages (Sastraatmadja, 1984).

Project cost is a form of price budget of a building that can be calculated in detail and must meet the requirements of making a building cost budget. The cost of each building will vary in each other city, this is due to differences in the price of materials and wages in each city. In the implementation of a construction project, cost planning is the most important part in realizing project objectives such as the suitability of cost, time and quality needs to be carried out in an integrated and comprehensive manner, especially in terms of costs required for materials and workers' wages (Malingkas, 2014).

2. Methods

This research was conducted in the form of a comparative analysis of the cost budget using the 2016 Analysis of Unit Price of Work (AHSP) method and AHSP 2022 in the case study of the Warung Jati restaurant building located at JL. Caringin Raya, Rawa Lumbu District, East Bekasi, West Java using the 2016 AHSP and 2022 AHSP standards that have been published by KEMENPUPR. This final project research can be summarized with an explanation flow in the form of the following flow chart :


Start
Literature Review
Data Collection
Secondary Data: RAB, AHSP 2016, AHSP 2022, Contractor Estimates, Shop Drawings.
Cost Budget Analysis With AHSP 2016 Method
Cost Budget Analysis With AHSP 2022 Method
Cost Budget Analysis With Contractor Estimates
A



Drawing 1. 1 Flow Chart of This Project

3. Result And Discussion

To analyze the Budget Plan with the method on the Warung Jati Restaurant building, data is needed in the form of unit prices of wages and materials used to determine the unit price of work with the AHSP method. The following are the unit prices of wages and materials contained in **Table 1.1**.

Tabel 1. 1 Worker Wage Price

No.	Uraian	Upah		Orang/hari
1	Pekerja	Rp	115.000,00	/orang/hari/8 jam
2	Tukang kayu kasar (Plafond, Kuda-kuda/Gording, R.Atap, bekisting)	Rp	130.000,00	/orang/hari/8 jam
3	Tukang kayu halus (Kusen)	Rp	135.000,00	/orang/hari/8 jam
4	Tukang besi beton	Rp	130.000,00	/orang/hari/8 jam
5	Tukang besi IWF/Profil konstruksi	Rp	135.000,00	/orang/hari/8 jam
6	Tukang batu kasar (beton, pondasi)	Rp	130.000,00	/orang/hari/8 jam
7	batu halus (lantai, plesteran, acian,	Rp	135.000,00	/orang/hari/8 jam
8	Tukang cat	Rp	130.000,00	/orang/hari/8 jam
9	Tukang pipa	Rp	130.000,00	/orang/hari/8 jam
10	Tukang listrik	Rp	125.000,00	/orang/hari/8 jam
11	Tukang gali	Rp	130.000,00	/orang/hari/8 jam
12	Tukang las	Rp	130.000,00	/orang/hari/8 jam
13	Tukang Aluminium	Rp	130.000,00	/orang/hari/8 jam
14	Tukang Vibrator	Rp	130.000,00	/orang/hari/8 jam
15	Tukang erection	Rp	130.000,00	/orang/hari/8 jam
16	Kepala tukang	Rp	145.000,00	/orang/hari/8 jam
17	Mandor	Rp	155.000,00	/orang/hari/8 jam
18	Operator alat besar	Rp	155.000,00	/orang/hari/8 jam
19	Pembantu operator	Rp	130.000,00	/orang/hari/8 jam

3.1 Methods Of AHSP 2016 & AHSP 2022

- Concrete Structure K225 Tread Foundation Work

For the manufacture of concrete structure of the footprint foundation, 3 sub-works are required, including the work of installing formwork, making Ready-mixed K-225 concrete, reinforcing with screw iron, and reinforcing with plain iron as in **Tabel 1.2**.

Tabel 1. 2 Concrete Work Description Tread Foundation Structure

No	Uraian	Satuan	Koefisien
A	TENAGA KERJA		
	Pasang bekisting untuk pondasi (2 x pakai)	m2	1,4000
	Beton K-225 Site mix dengan molen	m3	1,0000
	Pembesian dengan besi ulir	kg	177,5000
B	Jumlah Keseluruhan		
E	Pembulatan Harga Satuan Pekerjaan		

To find out the unit price value of the 3 sub-works above, a unit price analysis calculation is required. The following is an example of the calculation of the 3 sub-works. As in **Tabel 1.3, Tabel 1.4,** and **Tabel 1.5**.

- Calculation of Formwork Unit Price

Tabel 1. 3 Calculation of Formwork Unit Price Of AHSP 2016 Method

No	Uraian	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA				
	Pekerja	OH	0,5200	Rp.115.000,00	Rp.59.800,00
	Tukang Kayu Kasar	OH	0,2600	Rp.130.000,00	Rp.33.800,00
	Kepala Tukang	OH	0,0260	Rp.145.000,00	Rp.3.770,00
	Mandor	OH	0,0260	Rp.155.000,00	Rp.4.030,00
			JUMLAH HARGA TENAGA KERJA		Rp.101.400,00
B	BAHAN				
	Kayu terentang	m3	0,0200	Rp.1.890.000,00	Rp.37.800,00
	Paku biasa 2"-5"	kg	0,1500	Rp.10.500,00	Rp.1.575,00

	Minyak bekisting	Lt	0,0500	Rp.8.000,00	Rp.400,00
			JUMLAH HARGA BAHAN		Rp.39.775,00
C	Jumlah Keseluruhan				Rp.141.175,00
D	Biaya Umum dan Keuntungan (Maks 15%)			10%	Rp.14.117,50
E	Harga Satuan Pekerjaan				Rp.155.292,50
F	Pembulatan Harga Satuan Pekerjaan				Rp.155.200,00

Tabel 1. 4 Calculation of Concrete Ready Mix K-225 Unit Price AHSP 2016 Method

No	Uraian	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA				
	Pekerja	OH	1,3200	Rp.115.000,00	Rp.151.800,00
	Tukang batu kasar	OH	0,1890	Rp.130.000,00	Rp.24.570,00
	Kepala tukang	OH	0,0190	Rp.145.000,00	Rp.2.755,00
	Mandor	OH	0,1320	Rp.155.000,00	Rp.20.460,00
			JUMLAH HARGA TENAGA KERJA		Rp.199.585,00
B	BAHAN				
	Semen portland	kg	371,0	Rp.1.500,00	Rp.556.500,00
	Pasir beton	m3	0,4986	Rp.310.000,00	Rp.154.557,14
	Kerikil (maksimal 30 mm)	m3	0,7756	Rp.310.000,00	Rp.240.422,22
	Air	liter	215,0	Rp.100,00	Rp.21.500,00
			JUMLAH HARGA BAHAN		Rp.972.979,37
C	Peralatan				
D	Molen beton kap. 0,3 m3	Hari	0,250	Rp.320.000,00	Rp.80.000,00
E	Jumlah Keseluruhan				Rp.1.252.564,37
F	Biaya Umum dan Keuntungan (Maks 15%)			10%	Rp.125.256,44
G	Harga Satuan Pekerjaan				Rp.1.377.820,80
H	Pembulatan Harga Satuan Pekerjaan				Rp.1.377.800,00

- Calculation of Unit Price of Threaded Iron

Tabel 1. 5 Calculation of Unit Price of Threaded Iron AHSP 2016 Method

No	Uraian	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA				
	Pekerja	OH	0,0070	Rp.115.000,00	Rp.805,00
	Tukang besi beton	OH	0,0070	Rp.130.000,00	Rp.910,00
	Kepala tukang	OH	0,0007	Rp.145.000,00	Rp.101,50
	Mandor	OH	0,0004	Rp.155.000,00	Rp.62,00
			JUMLAH HARGA TENAGA KERJA		Rp.1.878,50
B	BAHAN				
	Besi beton (ulir/U39)	kg	0,0200	Rp.11.000,00	Rp.11.550,00
	Kawat beton	kg	0,1500	Rp.14.300,00	Rp.214,50
			JUMLAH HARGA BAHAN		Rp.11.764,50
C	Jumlah Keseluruhan				Rp.13.643,00
D	Biaya Umum dan Keuntungan (Maks 15%)			10%	Rp.1.364,30
E	Harga Satuan Pekerjaan				Rp.15.007,30
F	Pembulatan Harga Satuan Pekerjaan				Rp.15.000,00

For the calculation of the unit price of formwork refers to Based on the three calculations above, it is obtained that the value of making formwork is Rp.155,200, making Ready mix concrete is Rp.1,377,800, and making screw iron is Rp.15,000, 00. Furthermore, from the three prices above, each unit price value is multiplied by its coefficient. then it can be obtained the unit price value of the work of making concrete structure k225 foundation of Rp. 4,257,500.00 as in **Tabel 1.6**.

Tabel 1. 6 Unit price value of foundation structure concrete work

No	Uraian	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA				
	Pasang bekisting untuk pondasi (2 x pakai)	m2	1,4000	Rp.155.200,00	Rp.217.280,00
	Beton K-225 Site mix dengan molen	m3	1,0000	Rp.1.377.800,00	Rp.1.377.800,00
	Pembesian dengan besi ulir	kg	177,5000	Rp.15.000,00	Rp.2.662.500,00
B	Jumlah Keseluruhan				Rp.4.257.580,00
E	Pembulatan Harga Satuan Pekerjaan				Rp.4.257.500,00

3.2 Contractor Method

Meanwhile, in the contractor method, the value of the unit price is more likely to calculate the unit price based on their own analysis such as the example of **Tabel 1.7**.

Tabel 1. 7 Unit Price Value Using Contractor's Method

No	Item Pekerjaan	Harga Satuan
1	Sloof beton 20 x 40	Rp4.620.000,00
2	Sloof beton 15 x 30	Rp4.620.000,00
3	Kolom struktur 40 x 40	Rp4.620.000,00
4	Kolom struktur 15 x 40	Rp4.620.000,00
5	Kolom praktis 15 x 15	Rp3.960.000,00
6	Kolom pagar 30 x 30	Rp3.960.000,00
7	Balok kusen beton 15 x 30	Rp4.290.000,00
8	Tangga beton	Rp4.620.000,00
9	Cor meja dapur	Rp3.960.000,00
10	Rabat beton lantai carport	Rp990.000,00
11	Jembatan beton	Rp4.290.000,00
12	Rabat beton lantai ruang bawah	Rp990.000,00

The table above is the unit price value of the concrete sub-work used by the contractor through analysis and their estimates with reference to the price of materials and labor prices in the year the project was carried out**.**

3.3 The Different Of AHSP 2016 and AHSP 2022

In the 2016 AHSP and 2022 AHSP calculations, there are differences that affect the unit price values of the two methods, namely the material coefficient and the labor coefficient.

- Ceramic Installation 30 x 30

In the calculation of the cost budget in 2016, the price value of ceramic installation on the 1st floor and 2nd floor is Rp.1,532,400. Meanwhile in AHSP 2022 the price value is Rp. 2,610,000. the difference between the two methods is due to the difference in material coefficients in the unit price analysis as found in **Tabel 1.8** and **Tabel 1.9**.

AHSP 2016

Tabel 1. 8 Calculation of Unit Price for Ceramic Installation 30 x 30 AHSP 2016

No	Uraian	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA				
	Pekerja	OH	0,7000	Rp.115.000,00	Rp.80.500,00
	Tukang batu Halus	OH	0,3500	Rp.135.000,00	Rp.47.250,00
	Kepala tukang	OH	0,0350	Rp.145.000,00	Rp.5.075,00
	Mandor	OH	0,0350	Rp.155.000,00	Rp.5.425,00
			JUMLAH HARGA TENAGA KERJA		Rp.138.250,00
B	BAHAN				
	Ubin keramik 30 x 30 cm Putih	bh	11,8700	Rp.4.995,00	Rp.59.290,65
	Semen portland	kg	10,0000	Rp.1.500,00	Rp.15.000,00
	Pasir pasang	m3	0,0450	Rp.270.000,00	Rp.12.150,00
	Semen warna	kg	0,5000	Rp.15.000,00	Rp.7.500,00
			JUMLAH HARGA BAHAN		Rp.93.940,65
C	Jumlah Keseluruhan				Rp.232.190,65
D	Biaya Umum dan Keuntungan (Maks 15%)			10%	Rp.23.219,07
E	Harga Satuan Pekerjaan				Rp.255.409,72
F	Pembulatan Harga Satuan Pekerjaan				Rp.255.400,00

AHSP 2022

Tabel 1. 9 Calculation of Unit Price for Ceramic Installation 30 x 30 AHSP 2022

No	Uraian	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA				
	Pekerja	OH	0,7000	Rp.115.000,00	Rp.80.500,00
	Tukang batu Halus	OH	0,3500	Rp.135.000,00	Rp.47.250,00
	Kepala tukang	OH	0,0350	Rp.145.000,00	Rp.5.075,00
	Mandor	OH	0,0350	Rp.155.000,00	Rp.5.425,00
			JUMLAH HARGA TENAGA KERJA		Rp.138.250,00
B	BAHAN				
	Ubin keramik 30 x 30 cm Putih	bh	33,0000	Rp.4.995,00	Rp.164.835,00
	Semen portland	kg	9,8000	Rp.1.500,00	Rp.14.700,00
	Pasir pasang	m3	0,0450	Rp.270.000,00	Rp.12.150,00
	Semen warna	kg	4,3700	Rp.15.000,00	Rp.65.550,00
			JUMLAH HARGA BAHAN		Rp.257.235,00
C	Jumlah Keseluruhan				Rp.395.485,00
D	Biaya Umum dan Keuntungan (Maks 15%)			10%	Rp.39.548,50
E	Harga Satuan Pekerjaan				Rp.435.033,50
F	Pembulatan Harga Satuan Pekerjaan				Rp.435.000,00

From **Tabel 1.8** and **Tabel 1.9** The unit price value obtained in the 2016 AHSP is Rp.255,400, while

that in the 2022 AHSP is Rp.435,000. The difference between the two methods is in the change in the coefficient value of the material. In 2016, the coefficient of ceramic tile material value was 11.87 bh, Portland cement was 10 kg, tidal sand was 0.045 m3, and color cement was 0.5 kg. Then in 2022, the coefficient of ceramic tile material value is 33 bh, Portland cement is 9.8 kg, tidal sand is 0.045 m3, and color cement is 4.37 kg.

- Closet Installation

In the cost budget calculation in 2016, the price value of ceramic tile installation on the 1st floor and 2nd floor is Rp.10,547,800. Meanwhile, in AHSP 2022 there was a decrease in price value of Rp. 9,839,400. This happened because of the change in the coefficient of workers in the unit price analysis as found in the **Tabel 1.10** and **Tabel 1.11**.

AHSP 2016

Tabel 1. 10 Calculation of Unit Price for Closet for AHSP 2016

No	Uraian	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA				
	Pekerja	OH	3,3000	Rp.115.000,00	Rp.379.500,00
	Tukang batu halus	OH	1,1000	Rp.135.000,00	Rp.148.500,00
	Kepala tukang	OH	0,0010	Rp.145.000,00	Rp.145,00
	Mandor	OH	0,1600	Rp.155.000,00	Rp.24.800,00
			JUMLAH HARGA TENAGA KERJA		Rp.552.945,00
B	BAHAN				
	Kloset duduk/monoblok	bh	1,0000	Rp.4.001.500,00	Rp.4.001.500,00
	Perlengkapan	kg	0,0600	Rp.4.001.500,00	Rp.240.090,00
			JUMLAH HARGA BAHAN		Rp.4.241.590,00
C	Jumlah Keseluruhan				Rp.4.794.535,00
D	Biaya Umum dan Keuntungan (Maks 15%)			10%	Rp.479.453,50
E	Harga Satuan Pekerjaan				Rp.5.273.988,50
F	Pembulatan Harga Satuan Pekerjaan				Rp.5.273.900,00

AHSP 2022

Tabel 1. 11 Calculation of Unit Price for Closet for AHSP 2022

No	Uraian	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA				
	Pekerja	OH	0,5000	Rp.115.000,00	Rp.57.500,00
	Tukang batu halus	OH	1,1000	Rp.135.000,00	Rp.148.500,00
	Kepala tukang	OH	0,0010	Rp.145.000,00	Rp.145,00
	Mandor	OH	0,1600	Rp.155.000,00	Rp.24.800,00
			JUMLAH HARGA TENAGA KERJA		Rp.230.945,00
B	BAHAN				
	Kloset duduk/monoblok	bh	1,0000	Rp.4.001.500,00	Rp.4.001.500,00
	Perlengkapan	kg	0,0600	Rp.4.001.500,00	Rp.240.090,00
			JUMLAH HARGA BAHAN		Rp.4.241.590,00
C	Jumlah Keseluruhan				Rp.4.472.535,00
D	Biaya Umum dan Keuntungan (Maks 15%)			10%	Rp.447.253,50
E	Harga Satuan Pekerjaan				Rp.4.919.788,50
F	Pembulatan Harga Satuan Pekerjaan				Rp.4.919.700,00

From **Tabel 1.10** and **Tabel 1.11** obtained the unit price value of installing a sitting closek in the 2016 AHSP of Rp.5,273,900, while in the 2022 AHSP it was Rp.4,919,700. The difference between the two methods is in the change in the value of the labor coefficient. That is the value of the worker coefficient. In AHSP 2016 the worker coefficient is 3.3 OH and in 2022 the worker coefficient value is 0.5 people per day (OH).

- Concrete Mix K-225 with Molen

In the 2016 AHSP, the work of making concrete mix K-225 with molen has a price of Rp.1,377,800. Meanwhile, in AHSP 2022 the price value is Rp.1,333,000. The difference can be seen in **Tabel 1.12** and **Tabel 1.13**.

AHSP 2016

Tabel 1. 12 Calculation of Unit Price for Concrete Mix K-225 with Molen AHSP 2016

No	Uraian	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA				
	Pekerja	OH	1,3200	Rp.115.000,00	Rp.151.800,00
	Tukang batu kasar	OH	0,1890	Rp.130.000,00	Rp.24.570,00
	Kepala tukang	OH	0,0190	Rp.145.000,00	Rp.2.755,00
	Mandor	OH	0,1320	Rp.155.000,00	Rp.20.460,00
			JUMLAH HARGA TENAGA KERJA		Rp.199.585,00
B	BAHAN				
	Semen portland	kg	371,0	Rp.1.500,00	Rp.556.500,00
	Pasir beton	m3	0,4986	Rp.310.000,00	Rp.154.557,14
	Kerikil (maksimal 30 mm)	m3	0,7756	Rp.310.000,00	Rp.240.422,22
	Air	liter	215,0	Rp.100,00	Rp.21.500,00
			JUMLAH HARGA BAHAN		Rp.972.979,37
C	Peralatan				
D	Molen beton kap. 0,3 m3	Hari	0,250	Rp.320.000,00	Rp.80.000,00
E	Jumlah Keseluruhan				Rp.1.252.564,37
F	Biaya Umum dan Keuntungan (Maks 15%)			10%	Rp.125.256,44
G	Harga Satuan Pekerjaan				Rp.1.377.820,80
H	Pembulatan Harga Satuan Pekerjaan				Rp.1.377.800,00

AHSP 2022

Tabel 1. 13 Calculation of Unit Price for Concrete Mix Mix K-225 with Molen AHSP 2022

No	Uraian	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA				
	Pekerja	OH	1,0000	Rp.115.000,00	Rp.115.000,00
	Tukang batu kasar	OH	0,2500	Rp.130.000,00	Rp.32.500,00
	Kepala tukang	OH	0,0250	Rp.145.000,00	Rp.3.625,00
	Mandor	OH	0,0500	Rp.155.000,00	Rp.7.750,00
			JUMLAH HARGA TENAGA KERJA		Rp.158.875,00
B	BAHAN				
	Semen portland	kg	371,0	Rp.1.500,00	Rp.556.500,00
	Pasir beton	m3	0,4986	Rp.310.000,00	Rp.154.557,14
	Kerikil (maksimal 30 mm)	m3	0,7756	Rp.310.000,00	Rp.240.422,22
	Air	liter	215,0	Rp.100,00	Rp.21.500,00
			JUMLAH HARGA BAHAN		Rp.972.979,37
C	Peralatan				
D	Molen beton kap. 0,3 m3	Hari	0,250	Rp.320.000,00	Rp.80.000,00
E	Jumlah Keseluruhan				Rp.1.211.854,37
F	Biaya Umum dan Keuntungan (Maks 15%)			10%	Rp.121.185,44
G	Harga Satuan Pekerjaan				Rp.1.333.039,80
H	Pembulatan Harga Satuan Pekerjaan				Rp.1.333.000,00

From **Tabel 1.12** and **Tabel 1.13** There are several differences in coefficients, namely differences in coefficients on all labor. In AHSP 2016, the worker coefficient is 1.32; the rough mason coefficient is 0.189; the head mason coefficient is 0.019; and the foreman coefficient is 0.132. Meanwhile, in AHSP 2022, the worker coefficient is 1.00; the rough mason coefficient is 0.25; the head mason coefficient is 0.025; and the foreman coefficient is 0.05. As a result of the difference in coefficients, the price value of concrete making work also differs from both AHSPs. In AHSP 2016, the value of K-225 concrete mix with molen is Rp.1,377,800 and in AHSP 2022 it is Rp.1,333,000. With the difference in the price of these sub-works, there

is a difference in the price value of the work that uses the manufacture of K-225 mix concrete with molen. The work, among others, can be seen in **Tabel 1.14**.

Tabel 1. 14 The unit price of some work items affected by the difference in the unit price of making K-225 concrete mix with molen

No	Pekerjaan	Perbedaan Harga	
		AHSP 2016	AHSP 2022
1	Strauss pile (h = 8 m, dia = 30 cm)	Rp 3.043.000,00	Rp 2.998.200,00
2	Pondasi cakar ayam 1,5 m x 1,5 m	Rp 4.257.500,00	Rp 4.212.700,00
3	Sloof beton 20 x 40	Rp 5.401.300,00	Rp 5.356.500,00
4	Sloof beton 15 x 30	Rp 5.721.400,00	Rp 5.676.600,00
5	Kolom struktur 40 x 40	Rp 6.361.800,00	Rp 6.317.000,00
6	Kolom struktur 15 x 40	Rp 8.905.600,00	Rp 8.860.800,00
7	Kolom praktis 15 x 15	Rp 4.721.600,00	Rp 4.676.800,00
8	Kolom pagar 30 x 30	Rp 7.844.600,00	Rp 7.799.800,00

3.4 Price Recapitulation Based on the calculation of unit prices using the AHSP 2016, AHSP 2022 and Contractor Method.

After calculating the unit price of the three methods above, it can then be obtained the cost budget price issued for each work item by multiplying the volume of work by the unit price. From the three methods above, the results of the recapitulation of the cost budget of various sub-works are obtained as follows in **Tabel 1.15**.

Tabel 1. 15 Recapitulation of Cost Budget Value Based on Contractor Method, 2016 AHSP Method, and AHSP 2022.

No	Sub Pekerjaan	Harga Per Sub Pekerjaan		
		Metode Kontraktor (Rp.)	Metode AHSP 2016 (Rp.)	Metode AHSP 2022 (Rp.)
Lantai Bawah				
1	Pekerjaan Persiapan	17.406.000	12.281.038	12.281.038
2	Pekerjaan Bongkaran	17.952.000	17.088.432	17.088.432
3	Pekerjaan galian & Urugan	56.974.500	66.334.435	66.334.435
4	Pekerjaan Pondasi	181.739.250	142.289.382	140.640.442
5	Pekerjaan Beton	203.243.040	260.048.231	258.722.913
6	Pekerjaan Dinding	190.647.600	174.538.060	174.538.060
7	Pekerjaan Lantai	125.898.300	124.095.200	125.172.800
8	Pekerjaan Kusen, Jendela Pintu	89.826.000	70.751.285	70.751.285
9	Pekerjaan Plafon	40.385.400	56.977.200	56.977.200
10	Pekerjaan Elektrikal	30.399.600	21.814.600	21.814.600
11	Pekerjaan Sanitasi	34.643.400	42.877.500	42.877.500
12	Pekerjaan Finishing	33.158.400	30.206.800	30.206.800
13	Pekerjaan Besi dan Kanopi	30.360.000	30.569.000	30.569.000
Lantai Atas				
1	Pekerjaan Beton	531.078.570	659.848.385	650.035.714
2	Pekerjaan Dinding	185.347.800	147.225.160	147.225.160
3	Pekerjaan Lantai	69.022.800	54.081.600	55.159.200
4	Pekerjaan Kusen, Jendela Pintu	33.330.000	71.224.962	71.224.962
5	Pekerjaan Plafon	40.385.400	56.977.200	56.977.200
6	Pekerjaan Elektrikal	26.492.400	17.820.800	17.820.800
7	Pekerjaan Sanitasi	35.303.400	42.308.200	41.599.800
8	Pekerjaan Finishing	47.574.800	40.718.975	40.718.975
9	Pekerjaan Besi dan Kanopi	87.780.000	66.353.500	66.353.500
Jumlah Keseluruhan		**2.108.948.660**	**2.206.429.945**	**2.195.089.815**

Based on the results of the cost budget recapitulation above, the cost budget value using the contractor method is Rp. 2,108,948,660, the 2016 ASHP method is Rp. 2,206,429,945, and the AHSP 2022 method obtained a cost budget of Rp. 2,195,089,815. From the three methods above, there are differences in the value of the cost budget, namely the difference between the 2016 AHSP and the contactor of Rp. 97,481,285 or 4.42%, then the difference between the 2022 AHSP and the contactor of Rp. 86,141,155 or 3.92%, and the difference between the 2016 & 2022 AHSP of Rp. 11,340,130 or 0.51%.

4. Conclusions

1. The result of the difference between the 2016 AHSP Method and the Contactor Method is Rp. 97,481,285 or 4.42%, then the difference between the 2022 AHSP and the Contactor Method is Rp. 86,141,155 or 3.92%, and the difference between the 2016 & 2022 AHSP is Rp. 11,340,130 or 0.51%.
2. From the comparison of the cost budget value by following the AHSP standard, the cost budget value is more economical by using the AHSP 2022 method. Because the AHSP 2022 value is 0.51% cheaper than the AHSP 2016. However, when compared with the Contractor Method, the more economical of the three methods in calculating the cost of the Warung Jati Restaurant project is to use the Contractor Method.
3. The difference in the cost budget value of the three methods above is due to the difference in the coefficient value between the 2016 AHSP method and the 2022 AHSP Method, such as in the ceramic installation work item, closet sitting installation work and concrete mix installation work.

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