

## **DATA PENULIS**

- Nama : Heru Budikentjana
- Nrp : 0023102
- Alamat : Jl. Kancra 23, Buahbatu, Bandung.
- Tempat / Tgl. Lahir : Bandung, 14 Oktober 1982
- Telepon : 7301171 (08122146531)
- Jurusan : Teknik Industri
- Angkatan : 2000
- Tanggal lulus : 18 Desember 2004

## KOMENTAR DOSEN PENGUJI

- Apa betul *Lot for Lot* menghasilkan biaya persediaan yang minimum ?
- Penjelasan Lead Time dan biaya simpan diasumsikan sama untuk tiap distrik.
- Penjelasan kapan pemesanan dilakukan pada metode usulan DRP seharusnya konsisten dengan teknik lotting yang digunakan.
- Untuk usulan DRP sebaiknya disebutkan siapa penanggung jawab atau yang menjadi operator.
- Laporan sangat baik.

**PERMINTAAN MIE INSTAN BERBAGAI JENIS RASA PADA DISTRIK BANDUNG TAHUN 2004**

No.	Jenis / Rasa mie	Jan		Feb		Mar		Apr		May	
		karton	%	karton	%	karton	%	karton	%	karton	%
1	<b>Sarimi Ayam Bawang</b>	75,730	<b>60.42</b>	78,820	<b>60.91</b>	82,510	<b>61.36</b>	84,320	<b>61.95</b>	75,760	<b>59.60</b>
2	Sarimi Goreng	12,450	9.93	12,275	9.49	12,455	9.26	12,865	9.45	12,810	10.08
3	Sarimi Rasa Ayam	3,375	2.69	3,420	2.64	3,320	2.47	3,490	2.56	3,325	2.62
4	Sarimi Soto Ayam	4,390	3.50	4,720	3.65	4,775	3.55	4,575	3.36	4,825	3.80
5	Sarimi Goreng Keriting Ayam	885	0.71	975	0.75	1,050	0.78	1,010	0.74	945	0.74
6	Sarimi Rasa Kari Ayam Spesial	990	0.79	1,230	0.95	1,165	0.87	1,150	0.84	1,070	0.84
7	Sarimi Besar Ayam Bawang	1,250	1.00	1,115	0.86	1,370	1.02	1,135	0.83	1,275	1.00
8	Sarimi Besar Goreng Spesial	9,900	7.90	9,690	7.49	10,400	7.73	10,845	7.97	10,445	8.22
9	Sarimi Besar Soto Mie	4,560	3.64	4,745	3.67	4,550	3.38	4,880	3.59	5,055	3.98
10	Sarimi Ekstra Goreng	810	0.65	865	0.67	845	0.63	805	0.59	775	0.61
11	Sarimi Ekstra Soto	6,420	5.12	7,165	5.54	7,315	5.44	6,810	5.00	6,510	5.12
12	Sarimi Rasa Kaldu Ayam Istimewa	4,575	3.65	4,380	3.38	4,715	3.51	4,215	3.10	4,310	3.39
	<b>TOTAL</b>	125,335	100.00	129,400	100.00	134,470	100.00	136,100	100.00	127,105	100.00

*Lampiran B*

*Uji Kenormalan Data*

## NPar Tests

### One-Sample Kolmogorov-Smirnov Test

		BDG	TSK	CNJ	SBG	PWK	SMD	CRB	SKBM	GRT
N		24	24	24	24	24	24	24	24	24
Normal Parameters <sup>a,b</sup>	Mean	39294.17	17686.67	23935.83	28153.75	28432.92	37291.67	29240.83	20497.50	15243.75
	Std. Deviation	2490.51	1922.59	1698.13	1941.06	1005.61	2027.63	2455.30	1995.61	640.24
Most Extreme Differences	Absolute	.148	.139	.147	.121	.122	.175	.171	.101	.271
	Positive	.148	.139	.115	.086	.122	.175	.171	.101	.271
	Negative	-.089	-.108	-.147	-.121	-.088	-.104	-.109	-.098	-.187
Kolmogorov-Smirnov Z		.726	.680	.718	.593	.598	.857	.837	.495	1.328
Asymp. Sig. (2-tailed)		.668	.745	.682	.873	.867	.455	.485	.967	.059

a. Test distribution is Normal.

b. Calculated from data.

## *Lampiran C*

### *Perhitungan Coefficient of Variance*

### Perhitungan CV untuk Distrik Bandung

t	Xi	$(Xi - \bar{X})^2$
1	35740	12632100.694
2	35740	12632100.694
3	39215	6267.361
4	39215	6267.361
5	38420	764167.361
6	38420	764167.361
7	40705	1990450.694
8	40705	1990450.694
9	37655	2686867.361
10	37655	2686867.361
11	44715	29385434.028
12	44715	29385434.028
13	36510	7751584.028
14	36510	7751584.028
15	37865	2042517.361
16	37865	2042517.361
17	39410	13417.361
18	39410	13417.361
19	41255	3844867.361
20	41255	3844867.361
21	42160	8213000.694
22	42160	8213000.694
23	37880	1999867.361
24	37880	1999867.361
Total	943060	142661083.333
Rata2	39294.167	

Xi = Data penjualan saat ini

$\bar{X}$  = Rata - rata data penjualan

N = Jumlah data

$$\begin{aligned} \text{Standar Deviasi} &= \sqrt{\frac{\sum (Xi - \bar{X})^2}{N - 1}} \\ &= \sqrt{\frac{142661083.333}{24 - 1}} \\ &= 2490.513 \end{aligned}$$

$$\begin{aligned} \text{CV} &= \frac{\text{Standar Deviasi permintaan}}{\text{Rata - rata permintaan}} \\ &= \frac{2490.513}{39294.167} = 0.063 \end{aligned}$$

### Perhitungan CV untuk Distrik Tasikmalaya

t	Xi	$(Xi - \bar{X})^2$
1	16150	2361344.444
2	16150	2361344.444
3	15305	5672336.111
4	15305	5672336.111
5	15890	3228011.111
6	15890	3228011.111
7	16810	768544.444
8	16810	768544.444
9	18150	214677.778
10	18150	214677.778
11	22170	20100277.778
12	22170	20100277.778
13	15775	3654469.444
14	15775	3654469.444
15	17850	26677.778
16	17850	26677.778
17	19275	2522802.778
18	19275	2522802.778
19	18230	295211.111
20	18230	295211.111
21	17120	321111.111
22	17120	321111.111
23	19515	3342802.778
24	19515	3342802.778
Total	424480	85016533.333
Rata2	17686.667	

Xi = Data penjualan saat ini

$\bar{X}$  = Rata - rata data penjualan

N = Jumlah data

$$\begin{aligned} \text{Standar Deviasi} &= \sqrt{\frac{\sum (Xi - \bar{X})^2}{N - 1}} \\ &= \sqrt{\frac{85016533.333}{24 - 1}} \\ &= 1922.595 \end{aligned}$$

$$\begin{aligned} \text{CV} &= \frac{\text{Standar Deviasi permintaan}}{\text{Rata - rata permintaan}} \\ &= \frac{1922.595}{17686.667} = 0.109 \end{aligned}$$



### Perhitungan CV untuk Distrik Cianjur

t	Xi	$(Xi - \bar{X})^2$
1	21165	7677517.361
2	21165	7677517.361
3	23875	3700.694
4	23875	3700.694
5	24180	59617.361
6	24180	59617.361
7	22770	1359167.361
8	22770	1359167.361
9	24775	704200.694
10	24775	704200.694
11	25715	3165434.028
12	25715	3165434.028
13	21045	8356917.361
14	21045	8356917.361
15	23850	7367.361
16	23850	7367.361
17	23015	847934.028
18	23015	847934.028
19	24455	269534.028
20	24455	269534.028
21	25680	3042117.361
22	25680	3042117.361
23	26705	7668284.028
24	26705	7668284.028
Total	574460	66323583.333
Rata2	23935.833	

Xi = Data penjualan saat ini

$\bar{X}$  = Rata - rata data penjualan

N = Jumlah data

$$\begin{aligned} \text{Standar Deviasi} &= \sqrt{\frac{\sum (Xi - \bar{X})^2}{N - 1}} \\ &= \sqrt{\frac{66323583.333}{24 - 1}} \\ &= 1698.127 \end{aligned}$$

$$\begin{aligned} \text{CV} &= \frac{\text{Standar Deviasi permintaan}}{\text{Rata - rata permintaan}} \\ &= \frac{1698.127}{23935.833} = 0.071 \end{aligned}$$

### Perhitungan CV untuk Distrik Subang

t	Xi	$(Xi - \bar{X})^2$
1	25435	7391601.563
2	25435	7391601.563
3	24765	11483626.563
4	24765	11483626.563
5	26450	2902764.063
6	26450	2902764.063
7	27515	408001.563
8	27515	408001.563
9	28200	2139.063
10	28200	2139.063
11	31470	10997514.063
12	31470	10997514.063
13	27885	72226.563
14	27885	72226.563
15	29310	1336914.063
16	29310	1336914.063
17	30415	5113251.563
18	30415	5113251.563
19	28975	674451.563
20	28975	674451.563
21	27635	269101.563
22	27635	269101.563
23	29790	2677314.063
24	29790	2677314.063
Total	675690	86657812.500
Rata2	28153.750	

Xi = Data penjualan saat ini

$\bar{X}$  = Rata - rata data penjualan

N = Jumlah data

$$\begin{aligned} \text{Standar Deviasi} &= \sqrt{\frac{\sum (Xi - \bar{X})^2}{N - 1}} \\ &= \sqrt{\frac{86657812.5}{24 - 1}} \\ &= 1941.064 \end{aligned}$$

$$\begin{aligned} \text{CV} &= \frac{\text{Standar Deviasi permintaan}}{\text{Rata - rata permintaan}} \\ &= \frac{1941.064}{28153.750} = 0.069 \end{aligned}$$

### Perhitungan CV untuk Distrik Purwakarta

t	Xi	$(Xi - \bar{X})^2$
1	27445	975979.340
2	27445	975979.340
3	26530	3621091.840
4	26530	3621091.840
5	28445	146.007
6	28445	146.007
7	27610	677191.840
8	27610	677191.840
9	29840	1979883.507
10	29840	1979883.507
11	28760	106983.507
12	28760	106983.507
13	28570	18791.840
14	28570	18791.840
15	28940	257133.507
16	28940	257133.507
17	29160	528650.174
18	29160	528650.174
19	27890	294758.507
20	27890	294758.507
21	30125	2863146.007
22	30125	2863146.007
23	27880	305716.840
24	27880	305716.840
Total	682390	23258945.833
Rata2	28432.917	

Xi = Data penjualan saat ini

$\bar{X}$  = Rata - rata data penjualan

N = Jumlah data

$$\begin{aligned} \text{Standar Deviasi} &= \sqrt{\frac{\sum (Xi - \bar{X})^2}{N - 1}} \\ &= \sqrt{\frac{23258945.833}{24 - 1}} \\ &= 1005.614 \end{aligned}$$

$$\begin{aligned} \text{CV} &= \frac{\text{Standar Deviasi permintaan}}{\text{Rata - rata permintaan}} \\ &= \frac{1005.614}{28432.917} = 0.035 \end{aligned}$$

### Perhitungan CV untuk Distrik Sumedang

t	Xi	$(Xi - \bar{X})^2$
1	36745	298844.444
2	36745	298844.444
3	35195	4396011.111
4	35195	4396011.111
5	36515	603211.111
6	36515	603211.111
7	34810	6158669.444
8	34810	6158669.444
9	36855	190677.778
10	36855	190677.778
11	41890	21144669.444
12	41890	21144669.444
13	34735	6536544.444
14	34735	6536544.444
15	38765	2170711.111
16	38765	2170711.111
17	36915	141877.778
18	36915	141877.778
19	37250	1736.111
20	37250	1736.111
21	38475	1400277.778
22	38475	1400277.778
23	39350	4236736.111
24	39350	4236736.111
Total	895000	94559933.333
Rata2	37291.667	

Xi = Data penjualan saat ini

$\bar{X}$  = Rata - rata data penjualan

N = Jumlah data

$$\begin{aligned} \text{Standar Deviasi} &= \sqrt{\frac{\sum (Xi - \bar{X})^2}{N - 1}} \\ &= \sqrt{\frac{94559933.333}{24 - 1}} \\ &= 2027.634 \end{aligned}$$

$$\begin{aligned} \text{CV} &= \frac{\text{Standar Deviasi permintaan}}{\text{Rata - rata permintaan}} \\ &= \frac{2027.634}{37291.667} = 0.054 \end{aligned}$$

### Perhitungan CV untuk Distrik Cirebon

t	Xi	$(Xi - \bar{X})^2$
1	26740	6254167.361
2	26740	6254167.361
3	28470	594184.028
4	28470	594184.028
5	27165	4309084.028
6	27165	4309084.028
7	26450	7788750.694
8	26450	7788750.694
9	29205	1284.028
10	29205	1284.028
11	34060	23224367.361
12	34060	23224367.361
13	26215	9155667.361
14	26215	9155667.361
15	28740	250834.028
16	28740	250834.028
17	29215	667.361
18	29215	667.361
19	31880	6965200.694
20	31880	6965200.694
21	30460	1486367.361
22	30460	1486367.361
23	32290	9297417.361
24	32290	9297417.361
Total	701780	138655983.333
Rata2	29240.833	

Xi = Data penjualan saat ini

$\bar{X}$  = Rata - rata data penjualan

N = Jumlah data

$$\begin{aligned} \text{Standar Deviasi} &= \sqrt{\frac{\sum (Xi - \bar{X})^2}{N - 1}} \\ &= \sqrt{\frac{138655983.333}{24 - 1}} \\ &= 2455.305 \end{aligned}$$

$$\begin{aligned} \text{CV} &= \frac{\text{Standar Deviasi permintaan}}{\text{Rata - rata permintaan}} \\ &= \frac{2455.305}{29240.833} = 0.084 \end{aligned}$$

### Perhitungan CV untuk Distrik Sukabumi

t	Xi	$(Xi - \bar{X})^2$
1	17615	8308806.250
2	17615	8308806.250
3	18420	4316006.250
4	18420	4316006.250
5	17560	8628906.250
6	17560	8628906.250
7	19725	596756.250
8	19725	596756.250
9	21040	294306.250
10	21040	294306.250
11	24330	14688056.250
12	24330	14688056.250
13	19520	955506.250
14	19520	955506.250
15	22140	2697806.250
16	22140	2697806.250
17	20570	5256.250
18	20570	5256.250
19	21855	1842806.250
20	21855	1842806.250
21	22320	3321506.250
22	22320	3321506.250
23	20875	142506.250
24	20875	142506.250
Total	491940	91596450.000
Rata2	20497.500	

Xi = Data penjualan saat ini

$\bar{X}$  = Rata - rata data penjualan

N = Jumlah data

$$\begin{aligned} \text{Standar Deviasi} &= \sqrt{\frac{\sum (Xi - \bar{X})^2}{N - 1}} \\ &= \sqrt{\frac{91596450}{24 - 1}} \\ &= 1995.609 \end{aligned}$$

$$\begin{aligned} \text{CV} &= \frac{\text{Standar Deviasi permintaan}}{\text{Rata - rata permintaan}} \\ &= \frac{1995.609}{20497.5} = 0.097 \end{aligned}$$

### Perhitungan CV untuk Distrik Garut

t	Xi	$(Xi - \bar{X})^2$
1	14675	323476.563
2	14675	323476.563
3	14715	279576.563
4	14715	279576.563
5	15120	15314.063
6	15120	15314.063
7	14845	159001.563
8	14845	159001.563
9	14765	229201.563
10	14765	229201.563
11	16140	803264.063
12	16140	803264.063
13	14970	74939.063
14	14970	74939.063
15	16210	933639.063
16	16210	933639.063
17	14760	234014.063
18	14760	234014.063
19	16510	1603389.063
20	16510	1603389.063
21	15210	1139.063
22	15210	1139.063
23	15005	57001.563
24	15005	57001.563
Total	365850	9427912.500
Rata2	15243.750	

Xi = Data penjualan saat ini

$\bar{X}$  = Rata - rata data penjualan

N = Jumlah data

$$\begin{aligned} \text{Standar Deviasi} &= \sqrt{\frac{\sum (Xi - \bar{X})^2}{N - 1}} \\ &= \sqrt{\frac{9427912.5}{24 - 1}} \\ &= 640.242 \end{aligned}$$

$$\begin{aligned} \text{CV} &= \frac{\text{Standar Deviasi permintaan}}{\text{Rata - rata permintaan}} \\ &= \frac{640.242}{15243.750} = 0.042 \end{aligned}$$

*Lampiran D*

*Peramalan dan Perhitungan MAD*



## Peramalan Untuk Distrik Bandung

### Metode Simple Average

----- Forecast Results for bdg -----					
05-26-2004 01:44:14			Page: 1 of 1		
Period	Actual	F(t)		Forecast	Error
1	35740	35740			
2	35740	35740		35740	0
3	39215	36898.33		35740	-3475
4	39215	37477.5		36898.33	-2316.668
5	38420	37666		37477.5	-942.5
6	38420	37791.67		37666	-754
7	40705	38207.86		37791.67	-2913.332
8	40705	38520		38207.86	-2497.145
9	37665	38425		38520	855
10	37665	38349		38425	760
11	44715	38927.73		38349	-6366
12	44715	39410		38927.73	-5787.273
13	36510	39186.92		39410	2900
14	36510	38995.71		39186.92	2676.922
15	37865	38920.33		38995.71	1130.715
16	37865	38854.38		38920.33	1055.332
17	39410	38887.06		38854.38	-555.625
18	39410	38916.11		38887.06	-522.9414
19	41255	39039.21		38916.11	-2338.891
20	41255	39150		39039.21	-2215.789
21	42160	39293.33		39150	-3010
22	42160	39423.64		39293.33	-2866.668
23	37880	39356.52		39423.64	1543.637
24	37880	39295		39356.52	1476.523
25				39295	
26				39295	
27				39295	
28				39295	
29				39295	
30				39295	
31				39295	
32				39295	
33				39295	
34				39295	
35				39295	
36				39295	

Simple average: CPU Seconds = 0  
MAD = 2128.69    MSD = 6944394.    Bias = -1050.60    R-square = 0  
MAD = 2128.69    MSD = 6944394.    Bias = -1050.60

## Metode Moving Average

----- Forecast Results for bdg -----						
05-26-2004 01:59:03				Page: 1 of 1		
Period	Actual	F(t)	W(t)	Forecast	Error	
1	35740		.5			
2	35740	35740	.5			
3	39215	37477.5		35740	-3475	
4	39215	39215		37477.5	-1737.5	
5	38420	38817.5		39215	795	
6	38420	38420		38817.5	397.5	
7	40705	39562.5		38420	-2285	
8	40705	40705		39562.5	-1142.5	
9	37665	39185		40705	3040	
10	37665	37665		39185	1520	
11	44715	41190		37665	-7050	
12	44715	44715		41190	-3525	
13	36510	40612.5		44715	8205	
14	36510	36510		40612.5	4102.5	
15	37865	37187.5		36510	-1355	
16	37865	37865		37187.5	-677.5	
17	39410	38637.5		37865	-1545	
18	39410	39410		38637.5	-772.5	
19	41255	40332.5		39410	-1845	
20	41255	41255		40332.5	-922.5	
21	42160	41707.5		41255	-905	
22	42160	42160		41707.5	-452.5	
23	37880	40020		42160	4280	
24	37880	37880		40020	2140	
25				37880		
26				37880		
27				37880		
28				37880		
29				37880		
30				37880		
31				37880		
32				37880		
33				37880		
34				37880		
35				37880		
36				37880		

Weighted moving average: CPU Seconds = 0  
MAD = 2371.36    MSD = 9713609.    Bias = -145.91    R-square = 0  
M = 2

## Metode Single Exponential Smoothing

----- Forecast Results for bdg -----					
05-26-2004 02:01:55			Page: 1 of 1		
Period	Actual	F(t)		Forecast	Error
1	35740	35740			
2	35740	35740		35740	0
3	39215	39214.51		35740	-3475
4	39215	39215		39214.51	-4882813
5	38420	38420.11		39215	795
6	38420	38420		38420.11	.1132813
7	40705	40704.68		38420	-2285
8	40705	40705		40704.68	-3203125
9	37665	37665.43		40705	3040
10	37665	37665		37665.43	.4257813
11	44715	44714.01		37665	-7050
12	44715	44715		44714.01	-9882813
13	36510	36511.15		44715	8205
14	36510	36510		36511.15	1.148438
15	37865	37864.81		36510	-1355
16	37865	37865		37864.81	-1914063
17	39410	39409.79		37865	-1545
18	39410	39410		39409.79	-2148438
19	41255	41254.74		39410	-1845
20	41255	41255		41254.74	-2578125
21	42160	42159.88		41255	-905
22	42160	42160		42159.88	-.125
23	37880	37880.6		42160	4280
24	37880	37880		37880.6	.5976563
25				37880	
26				37880	
27				37880	
28				37880	
29				37880	
30				37880	
31				37880	
32				37880	
33				37880	
34				37880	
35				37880	
36				37880	

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Single exponential smoothing: CPU Seconds = 0  
MAD = 1512.39    MSD = 7433023.    Bias = -93.06    R-square = 0  
Alpha = .99986    Search criterion: MAD

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## Peramalan Untuk Distrik Tasikmalaya

### Metode Simple Average

----- Forecast Results for tsk -----						
05-26-2004 02:05:20			Page: 1 of 1			
Period	Actual	F(t)			Forecast	Error
1	16150	16150				
2	16150	16150			16150	0
3	15305	15868.33			16150	845
4	15305	15727.5			15868.33	563.333
5	15890	15760			15727.5	-162.5
6	15890	15781.67			15760	-130
7	16810	15928.57			15781.67	-1028.333
8	16810	16038.75			15928.57	-881.4287
9	18150	16273.33			16038.75	-2111.25
10	18150	16461			16273.33	-1876.667
11	22170	16980			16461	-5709
12	22170	17412.5			16980	-5190
13	15775	17286.54			17412.5	1637.5
14	15775	17178.57			17286.54	1511.539
15	17850	17223.33			17178.57	-671.4277
16	17850	17262.5			17223.33	-626.666
17	19275	17380.88			17262.5	-2012.5
18	19275	17486.11			17380.88	-1894.117
19	18230	17525.26			17486.11	-743.8887
20	18230	17560.5			17525.26	-704.7363
21	17120	17539.52			17560.5	440.5
22	17120	17520.46			17539.52	419.5234
23	19515	17607.17			17520.46	-1994.545
24	19515	17686.67			17607.17	-1907.826
25					17686.67	
26					17686.67	
27					17686.67	
28					17686.67	
29					17686.67	
30					17686.67	
31					17686.67	
32					17686.67	
33					17686.67	
34					17686.67	
35					17686.67	
36					17686.67	

Simple average: CPU Seconds = 0			
MAD = 1437.49	MSD = 4039248.	Bias = -966.41	R-square = 0
MAD = 1437.49	MSD = 4039248.	Bias = -966.41	

## Metode Moving Average

----- Forecast Results for tsk -----						
05-26-2004 02:06:14				Page: 1 of 1		
Period	Actual	F(t)	W(t)		Forecast	Error
1	16150		.5			
2	16150	16150	.5			
3	15305	15727.5			16150	845
4	15305	15305			15727.5	422.5
5	15890	15597.5			15305	-585
6	15890	15890			15597.5	-292.5
7	16810	16350			15890	-920
8	16810	16810			16350	-460
9	18150	17480			16810	-1340
10	18150	18150			17480	-670
11	22170	20160			18150	-4020
12	22170	22170			20160	-2010
13	15775	18972.5			22170	6395
14	15775	15775			18972.5	3197.5
15	17850	16812.5			15775	-2075
16	17850	17850			16812.5	-1037.5
17	19275	18562.5			17850	-1425
18	19275	19275			18562.5	-712.5
19	18230	18752.5			19275	1045
20	18230	18230			18752.5	522.5
21	17120	17675			18230	1110
22	17120	17120			17675	555
23	19515	18317.5			17120	-2395
24	19515	19515			18317.5	-1197.5
25					19515	
26					19515	
27					19515	
28					19515	
29					19515	
30					19515	
31					19515	
32					19515	
33					19515	
34					19515	
35					19515	
36					19515	

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Weighted moving average: CPU Seconds = 0  
MAD = 1510.57    MSD = 4269948.    Bias = -229.43    R-square = 0  
M = 2

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## Metode Single Exponential Smoothing

----- Forecast Results for tsk -----					
05-26-2004 02:06:56			Page: 1 of 1		
Period	Actual	F(t)		Forecast	Error
1	16150	16150			
2	16150	16150		16150	0
3	15305	15305.12		16150	845
4	15305	15305		15305.12	.1181641
5	15890	15889.92		15305	-585
6	15890	15890		15889.92	-0.0820312
7	16810	16809.87		15890	-920
8	16810	16810		16809.87	-.1289063
9	18150	18149.81		16810	-1340
10	18150	18150		18149.81	-.1875
11	22170	22169.44		18150	-4020
12	22170	22170		22169.44	-.5625
13	15775	15775.9		22170	6395
14	15775	15775		15775.9	.8955078
15	17850	17849.71		15775	-2075
16	17850	17850		17849.71	-.2910156
17	19275	19274.8		17850	-1425
18	19275	19275		19274.8	-.1992188
19	18230	18230.15		19275	1045
20	18230	18230		18230.15	.1464844
21	17120	17120.16		18230	1110
22	17120	17120		17120.16	.15625
23	19515	19514.66		17120	-2395
24	19515	19515		19514.66	-.3359375
25				19515	
26				19515	
27				19515	
28				19515	
29				19515	
30				19515	
31				19515	
32				19515	
33				19515	
34				19515	
35				19515	
36				19515	

Single exponential smoothing: CPU Seconds = 0  
MAD = 963.40    MSD = 3267438.    Bias = -146.32    R-square = 0.09  
Alpha = .99986    Search criterion: MAD

## Peramalan Untuk Distrik Cianjur

### Metode Simple Average

----- Forecast Results for Cianjur -----					
05-26-2004 02:37:54			Page: 1 of 1		
Period	Actual	F(t)		Forecast	Error
1	21165	21165			
2	21165	21165		21165	0
3	23875	22068.33		21165	-2710
4	23875	22520		22068.33	-1806.666
5	24180	22852		22520	-1660
6	24180	23073.33		22852	-1328
7	22770	23030		23073.33	303.334
8	22770	22997.5		23030	260
9	24775	23195		22997.5	-1777.5
10	24775	23353		23195	-1580
11	25715	23567.73		23353	-2362
12	25715	23746.67		23567.73	-2147.273
13	21045	23538.85		23746.67	2701.666
14	21045	23360.71		23538.85	2493.846
15	23850	23393.33		23360.71	-489.2852
16	23850	23421.88		23393.33	-456.666
17	23015	23397.94		23421.88	406.875
18	23015	23376.67		23397.94	382.9414
19	24455	23433.42		23376.67	-1078.334
20	24455	23484.5		23433.42	-1021.578
21	25680	23589.05		23484.5	-2195.5
22	25680	23684.09		23589.05	-2090.953
23	26705	23815.44		23684.09	-3020.908
24	26705	23935.83		23815.44	-2889.564
25				23935.83	
26				23935.83	
27				23935.83	
28				23935.83	
29				23935.83	
30				23935.83	
31				23935.83	
32				23935.83	
33				23935.83	
34				23935.83	
35				23935.83	
36				23935.83	

Simple average: CPU Seconds = 0			
MAD = 1528.82	MSD = 3229795.	Bias = -959.37	R-square = 0
MAD = 1528.82	MSD = 3229795.	Bias = -959.37	

## Metode Moving Average

----- Forecast Results for Cianjur -----						
05-26-2004 02:11:21			Page: 1 of 1			
Period	Actual	F(t)	W(t)		Forecast	Error
1	21165		.5			
2	21165	21165	.5			
3	23875	22520			21165	-2710
4	23875	23875			22520	-1355
5	24180	24027.5			23875	-305
6	24180	24180			24027.5	-152.5
7	22770	23475			24180	1410
8	22770	22770			23475	705
9	24775	23772.5			22770	-2005
10	24775	24775			23772.5	-1002.5
11	25715	25245			24775	-940
12	25715	25715			25245	-470
13	21045	23380			25715	4670
14	21045	21045			23380	2335
15	23850	22447.5			21045	-2805
16	23850	23850			22447.5	-1402.5
17	23015	23432.5			23850	835
18	23015	23015			23432.5	417.5
19	24455	23735			23015	-1440
20	24455	24455			23735	-720
21	25680	25067.5			24455	-1225
22	25680	25680			25067.5	-612.5
23	26705	26192.5			25680	-1025
24	26705	26705			26192.5	-512.5
25					26705	
26					26705	
27					26705	
28					26705	
29					26705	
30					26705	
31					26705	
32					26705	
33					26705	
34					26705	
35					26705	
36					26705	

Weighted moving average: CPU Seconds = 0  
MAD = 1320.68    MSD = 2802719.    Bias = -377.73    R-square = 0  
M = 2



## Metode Single Exponential Smoothing

----- Forecast Results for Cianjur -----					
05-26-2004 02:11:41			Page: 1 of 1		
Period	Actual	F(t)	Forecast	Error	
1	21165	21165			
2	21165	21165	21165	0	
3	23875	23874.62	21165	-2710	
4	23875	23875	23874.62	-.3789063	
5	24180	24179.96	23875	-305	
6	24180	24180	24179.96	-0.0429687	
7	22770	22770.2	24180	1410	
8	22770	22770	22770.2	.1972656	
9	24775	24774.72	22770	-2005	
10	24775	24775	24774.72	-.28125	
11	25715	25714.87	24775	-940	
12	25715	25715	25714.87	-.1308594	
13	21045	21045.65	25715	4670	
14	21045	21045	21045.65	.6542969	
15	23850	23849.61	21045	-2805	
16	23850	23850	23849.61	-.3925781	
17	23015	23015.12	23850	835	
18	23015	23015	23015.12	.1171875	
19	24455	24454.8	23015	-1440	
20	24455	24455	24454.8	-.2011719	
21	25680	25679.83	24455	-1225	
22	25680	25680	25679.83	-.171875	
23	26705	26704.86	25680	-1025	
24	26705	26705	26704.86	-.1445313	
25			26705		
26			26705		
27			26705		
28			26705		
29			26705		
30			26705		
31			26705		
32			26705		
33			26705		
34			26705		
35			26705		
36			26705		

Single exponential smoothing: CPU Seconds = 0.05 MAD = 842.29    MSD = 2144689.    Bias = -240.90    R-square = .15 Alpha = .99986    Search criterion: MAD					
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## Peramalan Untuk Distrik Subang

### Metode Simple Average

----- Forecast Results for Subang -----					
05-26-2004 02:15:12			Page: 1 of 1		
Period	Actual	F(t)		Forecast	Error
1	25435	25435			
2	25435	25435		25435	0
3	24765	25211.67		25435	670
4	24765	25100		25211.67	446.666
5	26450	25370		25100	-1350
6	26450	25550		25370	-1080
7	27515	25830.71		25550	-1965
8	27515	26041.25		25830.71	-1684.285
9	28200	26281.11		26041.25	-2158.75
10	28200	26473		26281.11	-1918.889
11	31470	26927.27		26473	-4997
12	31470	27305.83		26927.27	-4542.727
13	27885	27350.38		27305.83	-579.166
14	27885	27388.57		27350.38	-534.6152
15	29310	27516.67		27388.57	-1921.428
16	29310	27628.75		27516.67	-1793.334
17	30415	27792.65		27628.75	-2786.25
18	30415	27938.33		27792.65	-2622.354
19	28975	27992.89		27938.33	-1036.666
20	28975	28042		27992.89	-982.1055
21	27635	28022.62		28042	407
22	27635	28005		28022.62	387.6191
23	29790	28082.61		28005	-1785
24	29790	28153.75		28082.61	-1707.391
25				28153.75	
26				28153.75	
27				28153.75	
28				28153.75	
29				28153.75	
30				28153.75	
31				28153.75	
32				28153.75	
33				28153.75	
34				28153.75	
35				28153.75	
36				28153.75	

Simple average: CPU Seconds = 0  
MAD = 1624.18    MSD = 4126508.    Bias = -1457.99    R-square = 0  
MAD = 1624.18    MSD = 4126508.    Bias = -1457.99

## Metode Moving Average

----- Forecast Results for Subang -----						
05-26-2004 02:18:19				Page: 1 of 1		
Period	Actual	F(t)	W(t)		Forecast	Error
1	25435		.5			
2	25435	25435	.5			
3	24765	25100			25435	670
4	24765	24765			25100	335
5	26450	25607.5			24765	-1685
6	26450	26450			25607.5	-842.5
7	27515	26982.5			26450	-1065
8	27515	27515			26982.5	-532.5
9	28200	27857.5			27515	-685
10	28200	28200			27857.5	-342.5
11	31470	29835			28200	-3270
12	31470	31470			29835	-1635
13	27885	29677.5			31470	3585
14	27885	27885			29677.5	1792.5
15	29310	28597.5			27885	-1425
16	29310	29310			28597.5	-712.5
17	30415	29862.5			29310	-1105
18	30415	30415			29862.5	-552.5
19	28975	29695			30415	1440
20	28975	28975			29695	720
21	27635	28305			28975	1340
22	27635	27635			28305	670
23	29790	28712.5			27635	-2155
24	29790	29790			28712.5	-1077.5
25					29790	
26					29790	
27					29790	
28					29790	
29					29790	
30					29790	
31					29790	
32					29790	
33					29790	
34					29790	
35					29790	
36					29790	

-----						
Weighted moving average: CPU Seconds = 0						
MAD = 1256.25    MSD = 2284180.    Bias = -296.93    R-square = .29						
M = 2						
-----						

## Metode Single Exponential Smoothing

----- Forecast Results for Subang -----					
05-26-2004 02:18:41			Page: 1 of 1		
Period	Actual	F(t)	Forecast	Error	
1	25435	25435			
2	25435	25435	25435	0	
3	24765	24765.09	25435	670	
4	24765	24765	24765.09	.09375	
5	26450	26449.76	24765	-1685	
6	26450	26450	26449.76	-.2363281	
7	27515	27514.85	26450	-1065	
8	27515	27515	27514.85	-.1484375	
9	28200	28199.9	27515	-685	
10	28200	28200	28199.9	-0.0957031	
11	31470	31469.54	28200	-3270	
12	31470	31470	31469.54	-.4589844	
13	27885	27885.5	31470	3585	
14	27885	27885	27885.5	.5019531	
15	29310	29309.8	27885	-1425	
16	29310	29310	29309.8	-.1992188	
17	30415	30414.85	29310	-1105	
18	30415	30415	30414.85	-.1542969	
19	28975	28975.2	30415	1440	
20	28975	28975	28975.2	.2011719	
21	27635	27635.19	28975	1340	
22	27635	27635	27635.19	.1875	
23	29790	29789.7	27635	-2155	
24	29790	29790	29789.7	-.3027344	
25			29790		
26			29790		
27			29790		
28			29790		
29			29790		
30			29790		
31			29790		
32			29790		
33			29790		
34			29790		
35			29790		
36			29790		

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Single exponential smoothing: CPU Seconds = 0.05					
MAD = 801.20    MSD = 1747894.    Bias = -189.37    R-square = .49					
Alpha = .99986    Search criterion: MAD					
-----					

## Peramalan Untuk Distrik Purwakarta

### Metode Simple Average

----- Forecast Results for Purwakarta -----					
05-26-2004 02:24:31			Page: 1 of 1		
Period	Actual	F(t)		Forecast	Error
1	27445	27445			
2	27445	27445		27445	0
3	26530	27140		27445	915
4	26530	26987.5		27140	610
5	28445	27279		26987.5	-1457.5
6	28445	27473.33		27279	-1166
7	27610	27492.86		27473.33	-136.666
8	27610	27507.5		27492.86	-117.1426
9	29840	27766.67		27507.5	-2332.5
10	29840	27974		27766.67	-2073.334
11	28760	28045.46		27974	-786
12	28760	28105		28045.46	-714.5449
13	28570	28140.77		28105	-465
14	28570	28171.43		28140.77	-429.2305
15	28940	28222.67		28171.43	-768.5723
16	28940	28267.5		28222.67	-717.334
17	29160	28320		28267.5	-892.5
18	29160	28366.67		28320	-840
19	27890	28341.58		28366.67	476.666
20	27890	28319		28341.58	451.5781
21	30125	28405		28319	-1806
22	30125	28483.18		28405	-1720
23	27880	28456.96		28483.18	603.1816
24	27880	28432.92		28456.96	576.957
25				28432.92	
26				28432.92	
27				28432.92	
28				28432.92	
29				28432.92	
30				28432.92	
31				28432.92	
32				28432.92	
33				28432.92	
34				28432.92	
35				28432.92	
36				28432.92	

Simple average: CPU Seconds = 0					
MAD = 871.99		MSD = 1128217.		Bias = -556.04	
MAD = 871.99		MSD = 1128217.		R-square = 0	
				Bias = -556.04	

## Metode Moving Average

Forecast Results for Purwakarta					
05-26-2004 02:24:50			Page: 1 of 1		
Period	Actual	F(t)	W(t)	Forecast	Error
1	27445		.5		
2	27445	27445	.5		
3	26530	26987.5		27445	915
4	26530	26530		26987.5	457.5
5	28445	27487.5		26530	-1915
6	28445	28445		27487.5	-957.5
7	27610	28027.5		28445	835
8	27610	27610		28027.5	417.5
9	29840	28725		27610	-2230
10	29840	29840		28725	-1115
11	28760	29300		29840	1080
12	28760	28760		29300	540
13	28570	28665		28760	190
14	28570	28570		28665	95
15	28940	28755		28570	-370
16	28940	28940		28755	-185
17	29160	29050		28940	-220
18	29160	29160		29050	-110
19	27890	28525		29160	1270
20	27890	27890		28525	635
21	30125	29007.5		27890	-2235
22	30125	30125		29007.5	-1117.5
23	27880	29002.5		30125	2245
24	27880	27880		29002.5	1122.5
25				27880	
26				27880	
27				27880	
28				27880	
29				27880	
30				27880	
31				27880	
32				27880	
33				27880	
34				27880	
35				27880	
36				27880	

Weighted moving average: CPU Seconds = 0  
MAD = 920.80    MSD = 1318780.    Bias = -29.66    R-square = 0  
M = 2

## Metode Single Exponential Smoothing

----- Forecast Results for Purwakarta -----					
05-26-2004 02:25:04			Page: 1 of 1		
Period	Actual	F(t)		Forecast	Error
1	27445	27445			
2	27445	27445		27445	0
3	26530	27174.81		27445	915
4	26530	26984.41		27174.81	644.8125
5	28445	27415.7		26984.41	-1460.592
6	28445	27719.64		27415.7	-1029.299
7	27610	27687.26		27719.64	109.6387
8	27610	27664.45		27687.26	77.26367
9	29840	28306.86		27664.45	-2175.551
10	29840	28759.57		28306.86	-1533.141
11	28760	28759.7		28759.57	-.4257813
12	28760	28759.79		28759.7	-.3007813
13	28570	28703.75		28759.79	189.7871
14	28570	28664.25		28703.75	133.7461
15	28940	28745.68		28664.25	-275.748
16	28940	28803.06		28745.68	-194.3242
17	29160	28908.46		28803.06	-356.9434
18	29160	28982.73		28908.46	-251.543
19	27890	28660.06		28982.73	1092.734
20	27890	28432.68		28660.06	770.0645
21	30125	28932.39		28432.68	-1692.324
22	30125	29284.55		28932.39	-1192.605
23	27880	28869.81		29284.55	1404.555
24	27880	28577.53		28869.81	989.8086
25				28577.53	
26				28577.53	
27				28577.53	
28				28577.53	
29				28577.53	
30				28577.53	
31				28577.53	
32				28577.53	
33				28577.53	
34				28577.53	
35				28577.53	
36				28577.53	

-----					
Single exponential smoothing: CPU Seconds = 0					
MAD = 716.97		MSD = 910067.1		Bias = -166.76	
		Alpha = .29529		R-square = 0.06	
				Search criterion: MAD	
-----					

## Peramalan Untuk Distrik Sumedang

### Metode Simple Average

----- Forecast Results for Sumedang -----					
05-26-2004 02:27:49			Page: 1 of 1		
Period	Actual	F(t)		Forecast	Error
1	36745	36745			
2	36745	36745		36745	0
3	35195	36228.33		36745	1550
4	35195	35970		36228.33	1033.332
5	36515	36079		35970	-545
6	36515	36151.67		36079	-436
7	34810	35960		36151.67	1341.668
8	34810	35816.25		35960	1150
9	36855	35931.67		35816.25	-1038.75
10	36855	36024		35931.67	-923.332
11	41890	36557.27		36024	-5866
12	41890	37001.67		36557.27	-5332.727
13	34735	36827.31		37001.67	2266.668
14	34735	36677.86		36827.31	2092.309
15	38765	36817		36677.86	-2087.145
16	38765	36938.75		36817	-1948
17	36915	36937.35		36938.75	23.75
18	36915	36936.11		36937.35	22.35156
19	37250	36952.63		36936.11	-313.8906
20	37250	36967.5		36952.63	-297.3672
21	38475	37039.29		36967.5	-1507.5
22	38475	37104.55		37039.29	-1435.715
23	39350	37202.18		37104.55	-2245.453
24	39350	37291.67		37202.18	-2147.824
25				37291.67	
26				37291.67	
27				37291.67	
28				37291.67	
29				37291.67	
30				37291.67	
31				37291.67	
32				37291.67	
33				37291.67	
34				37291.67	
35				37291.67	
36				37291.67	

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Simple average: CPU Seconds = 0

MAD = 1548.03    MSD = 4508823.    Bias = -723.68    R-square = 0

MAD = 1548.03    MSD = 4508823.    Bias = -723.68

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## Metode Moving Average

----- Forecast Results for Sumedang -----						
05-26-2004 02:28:00				Page: 1 of 1		
Period	Actual	F(t)	W(t)		Forecast	Error
1	36745		.5			
2	36745	36745	.5			
3	35195	35970			36745	1550
4	35195	35195			35970	775
5	36515	35855			35195	-1320
6	36515	36515			35855	-660
7	34810	35662.5			36515	1705
8	34810	34810			35662.5	852.5
9	36855	35832.5			34810	-2045
10	36855	36855			35832.5	-1022.5
11	41890	39372.5			36855	-5035
12	41890	41890			39372.5	-2517.5
13	34735	38312.5			41890	7155
14	34735	34735			38312.5	3577.5
15	38765	36750			34735	-4030
16	38765	38765			36750	-2015
17	36915	37840			38765	1850
18	36915	36915			37840	925
19	37250	37082.5			36915	-335
20	37250	37250			37082.5	-167.5
21	38475	37862.5			37250	-1225
22	38475	38475			37862.5	-612.5
23	39350	38912.5			38475	-875
24	39350	39350			38912.5	-437.5
25					39350	
26					39350	
27					39350	
28					39350	
29					39350	
30					39350	
31					39350	
32					39350	
33					39350	
34					39350	
35					39350	
36					39350	

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Weighted moving average: CPU Seconds = 0  
MAD = 1849.43    MSD = 6239834.    Bias = -177.61    R-square = 0  
M = 2

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## Metode Single Exponential Smoothing

----- Forecast Results for Sumedang -----					
05-26-2004 02:28:20			Page: 1 of 1		
Period	Actual	F(t)	Forecast	Error	
1	36745	36745			
2	36745	36745	36745		0
3	35195	35195.22	36745		1550
4	35195	35195	35195.22		.21875
5	36515	36514.82	35195		-1320
6	36515	36515	36514.82		-.1835938
7	34810	34810.24	36515		1705
8	34810	34810	34810.24		.2382813
9	36855	36854.71	34810		-2045
10	36855	36855	36854.71		-.2851563
11	41890	41889.29	36855		-5035
12	41890	41890	41889.29		-.7070313
13	34735	34736	41890		7155
14	34735	34735	34736		1.003906
15	38765	38764.43	34735		-4030
16	38765	38765	38764.43		-.5664063
17	36915	36915.26	38765		1850
18	36915	36915	36915.26		.2578125
19	37250	37249.95	36915		-335
20	37250	37250	37249.95		-.046875
21	38475	38474.83	37250		-1225
22	38475	38475	38474.83		-.171875
23	39350	39349.88	38475		-875
24	39350	39350	39349.88		-.1210938
25			39350		
26			39350		
27			39350		
28			39350		
29			39350		
30			39350		
31			39350		
32			39350		
33			39350		
34			39350		
35			39350		
36			39350		

Single exponential smoothing: CPU Seconds = 0  
MAD = 1179.51    MSD = 4774829.    Bias = -113.28    R-square = 0  
Alpha = .99986    Search criterion: MAD

## Peramalan Untuk Distrik Cirebon

### Metode Simple Average

----- Forecast Results for Cirebon -----					
05-26-2004 02:30:09			Page: 1 of 1		
Period	Actual	F(t)		Forecast	Error
1	26740	26740			
2	26740	26740		26740	0
3	28470	27316.67		26740	-1730
4	28470	27605		27316.67	-1153.334
5	27165	27517		27605	440
6	27165	27458.33		27517	352
7	26450	27314.29		27458.33	1008.334
8	26450	27206.25		27314.29	864.2852
9	29205	27428.33		27206.25	-1998.75
10	29205	27606		27428.33	-1776.666
11	34060	28192.73		27606	-6454
12	34060	28681.67		28192.73	-5867.273
13	26215	28491.92		28681.67	2466.666
14	26215	28329.29		28491.92	2276.924
15	28740	28356.67		28329.29	-410.7148
16	28740	28380.63		28356.67	-383.334
17	29215	28429.71		28380.63	-834.375
18	29215	28473.33		28429.71	-785.2949
19	31880	28652.63		28473.33	-3406.666
20	31880	28814		28652.63	-3227.369
21	30460	28892.38		28814	-1646
22	30460	28963.64		28892.38	-1567.619
23	32290	29108.26		28963.64	-3326.363
24	32290	29240.83		29108.26	-3181.738
25				29240.83	
26				29240.83	
27				29240.83	
28				29240.83	
29				29240.83	
30				29240.83	
31				29240.83	
32				29240.83	
33				29240.83	
34				29240.83	
35				29240.83	
36				29240.83	

Simple average: CPU Seconds = 0

MAD = 1963.38    MSD = 6561234.    Bias = -1319.19    R-square = 0

MAD = 1963.38    MSD = 6561234.    Bias = -1319.19

## Metode Moving Average

----- Forecast Results for Cirebon -----						
05-26-2004 02:30:25				Page: 1 of 1		
Period	Actual	F(t)	W(t)		Forecast	Error
1	26740		.5			
2	26740	26740	.5			
3	28470	27605			26740	-1730
4	28470	28470			27605	-865
5	27165	27817.5			28470	1305
6	27165	27165			27817.5	652.5
7	26450	26807.5			27165	715
8	26450	26450			26807.5	357.5
9	29205	27827.5			26450	-2755
10	29205	29205			27827.5	-1377.5
11	34060	31632.5			29205	-4855
12	34060	34060			31632.5	-2427.5
13	26215	30137.5			34060	7845
14	26215	26215			30137.5	3922.5
15	28740	27477.5			26215	-2525
16	28740	28740			27477.5	-1262.5
17	29215	28977.5			28740	-475
18	29215	29215			28977.5	-237.5
19	31880	30547.5			29215	-2665
20	31880	31880			30547.5	-1332.5
21	30460	31170			31880	1420
22	30460	30460			31170	710
23	32290	31375			30460	-1830
24	32290	32290			31375	-915
25					32290	
26					32290	
27					32290	
28					32290	
29					32290	
30					32290	
31					32290	
32					32290	
33					32290	
34					32290	
35					32290	
36					32290	

Weighted moving average: CPU Seconds = 0  
MAD = 1917.27    MSD = 6646648.    Bias = -378.41    R-square = 0  
M = 2

## Metode Single Exponential Smoothing

----- Forecast Results for Cirebon -----					
05-26-2004 02:30:38			Page: 1 of 1		
Period	Actual	F(t)	Forecast	Error	
1	26740	26740			
2	26740	26740	26740		0
3	28470	28469.76	26740		-1730
4	28470	28470	28469.76		-.2421875
5	27165	27165.18	28470		1305
6	27165	27165	27165.18		.1835938
7	26450	26450.1	27165		715
8	26450	26450	26450.1		0.09960937
9	29205	29204.61	26450		-2755
10	29205	29205	29204.61		-.3867188
11	34060	34059.32	29205		-4855
12	34060	34060	34059.32		-.6796875
13	26215	26216.1	34060		7845
14	26215	26215	26216.1		1.099609
15	28740	28739.65	26215		-2525
16	28740	28740	28739.65		-.3535156
17	29215	29214.93	28740		-475
18	29215	29215	29214.93		-0.0664062
19	31880	31879.63	29215		-2665
20	31880	31880	31879.63		-.3730469
21	30460	30460.2	31880		1420
22	30460	30460	30460.2		.1992188
23	32290	32289.74	30460		-1830
24	32290	32290	32289.74		-.2558594
25			32290		
26			32290		
27			32290		
28			32290		
29			32290		
30			32290		
31			32290		
32			32290		
33			32290		
34			32290		
35			32290		
36			32290		

Single exponential smoothing: CPU Seconds = 0  
MAD = 1222.78    MSD = 5086130.    Bias = -241.34    R-square = .11  
Alpha = .99986    Search criterion: MAD

## Peramalan Untuk Distrik Sukabumi

### Metode Simple Average

----- Forecast Results for Sukabumi -----						
05-26-2004 02:32:29			Page: 1 of 1			
Period	Actual	F(t)			Forecast	Error
1	17615	17615				
2	17615	17615			17615	0
3	18420	17883.33			17615	-805
4	18420	18017.5			17883.33	-536.666
5	17560	17926			18017.5	457.5
6	17560	17865			17926	366
7	19725	18130.71			17865	-1860
8	19725	18330			18130.71	-1594.285
9	21040	18631.11			18330	-2710
10	21040	18872			18631.11	-2408.889
11	24330	19368.18			18872	-5458
12	24330	19781.67			19368.18	-4961.818
13	19520	19761.54			19781.67	261.666
14	19520	19744.29			19761.54	241.5391
15	22140	19904			19744.29	-2395.715
16	22140	20043.75			19904	-2236
17	20570	20074.71			20043.75	-526.25
18	20570	20102.22			20074.71	-495.2949
19	21855	20194.47			20102.22	-1752.777
20	21855	20277.5			20194.47	-1660.525
21	22320	20374.76			20277.5	-2042.5
22	22320	20463.18			20374.76	-1945.238
23	20875	20481.09			20463.18	-411.8184
24	20875	20497.5			20481.09	-393.9121
25					20497.5	
26					20497.5	
27					20497.5	
28					20497.5	
29					20497.5	
30					20497.5	
31					20497.5	
32					20497.5	
33					20497.5	
34					20497.5	
35					20497.5	
36					20497.5	

Simple average: CPU Seconds = 0			
MAD = 1544.41	MSD = 4362401.	Bias = -1429.04	R-square = 0
MAD = 1544.41	MSD = 4362401.	Bias = -1429.04	

## Metode Moving Average

----- Forecast Results for Sukabumi -----						
05-26-2004 02:32:43				Page: 1 of 1		
Period	Actual	F(t)	W(t)		Forecast	Error
1	17615		.5			
2	17615	17615	.5			
3	18420	18017.5			17615	-805
4	18420	18420			18017.5	-402.5
5	17560	17990			18420	860
6	17560	17560			17990	430
7	19725	18642.5			17560	-2165
8	19725	19725			18642.5	-1082.5
9	21040	20382.5			19725	-1315
10	21040	21040			20382.5	-657.5
11	24330	22685			21040	-3290
12	24330	24330			22685	-1645
13	19520	21925			24330	4810
14	19520	19520			21925	2405
15	22140	20830			19520	-2620
16	22140	22140			20830	-1310
17	20570	21355			22140	1570
18	20570	20570			21355	785
19	21855	21212.5			20570	-1285
20	21855	21855			21212.5	-642.5
21	22320	22087.5			21855	-465
22	22320	22320			22087.5	-232.5
23	20875	21597.5			22320	1445
24	20875	20875			21597.5	722.5
25					20875	
26					20875	
27					20875	
28					20875	
29					20875	
30					20875	
31					20875	
32					20875	
33					20875	
34					20875	
35					20875	
36					20875	

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Weighted moving average: CPU Seconds = 0  
MAD = 1406.59    MSD = 3127787.    Bias = -222.27    R-square = 0.06  
M = 2

-----

## Metode Single Exponential Smoothing

----- Forecast Results for Sukabumi -----						
05-26-2004 02:33:06			Page: 1 of 1			
Period	Actual	F(t)			Forecast	Error
1	17615	17615				
2	17615	17615			17615	0
3	18420	18419.89			17615	-805
4	18420	18420			18419.89	-.1132813
5	17560	17560.12			18420	860
6	17560	17560			17560.12	.1210938
7	19725	19724.7			17560	-2165
8	19725	19725			19724.7	-.3027344
9	21040	21039.82			19725	-1315
10	21040	21040			21039.82	-.1835938
11	24330	24329.54			21040	-3290
12	24330	24330			24329.54	-.4609375
13	19520	19520.67			24330	4810
14	19520	19520			19520.67	.6738281
15	22140	22139.63			19520	-2620
16	22140	22140			22139.63	-.3671875
17	20570	20570.22			22140	1570
18	20570	20570			20570.22	.2207031
19	21855	21854.82			20570	-1285
20	21855	21855			21854.82	-.1796875
21	22320	22319.94			21855	-465
22	22320	22320			22319.94	-0.0644531
23	20875	20875.2			22320	1445
24	20875	20875			20875.2	.203125
25					20875	
26					20875	
27					20875	
28					20875	
29					20875	
30					20875	
31					20875	
32					20875	
33					20875	
34					20875	
35					20875	
36					20875	

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Single exponential smoothing: CPU Seconds = 0						
MAD = 897.08    MSD = 2393437.    Bias = -141.76    R-square = .34						
Alpha = .99986    Search criterion: MAD						
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## Peramalan Untuk Distrik Garut

### Metode Simple Average

Forecast Results for Garut					
05-26-2004 02:35:20			Page: 1 of 1		
Period	Actual	F(t)		Forecast	Error
1	14675	14675			
2	14675	14675		14675	0
3	14715	14688.33		14675	-40
4	14715	14695		14688.33	-26.66699
5	15120	14780		14695	-425
6	15120	14836.67		14780	-340
7	14845	14837.86		14836.67	-8.333008
8	14845	14838.75		14837.86	-7.142578
9	14765	14830.56		14838.75	73.75
10	14765	14824		14830.56	65.55566
11	16140	14943.64		14824	-1316
12	16140	15043.33		14943.64	-1196.363
13	14970	15037.69		15043.33	73.33301
14	14970	15032.86		15037.69	67.69238
15	16210	15111.33		15032.86	-1177.143
16	16210	15180		15111.33	-1098.667
17	14760	15155.29		15180	420
18	14760	15133.33		15155.29	395.2939
19	16510	15205.79		15133.33	-1376.667
20	16510	15271		15205.79	-1304.211
21	15210	15268.1		15271	61
22	15210	15265.45		15268.1	58.0957
23	15005	15254.13		15265.45	260.4541
24	15005	15243.75		15254.13	249.1309
25				15243.75	
26				15243.75	
27				15243.75	
28				15243.75	
29				15243.75	
30				15243.75	
31				15243.75	
32				15243.75	
33				15243.75	
34				15243.75	
35				15243.75	
36				15243.75	

Simple average: CPU Seconds = 0					
MAD = 436.54		MSD = 440872.3		Bias = -286.60	
MAD = 436.54		MSD = 440872.3		R-square = 0	
				Bias = -286.60	

## Metode Moving Average

----- Forecast Results for Garut -----						
05-26-2004 02:35:29				Page: 1 of 1		
Period	Actual	F(t)	W(t)		Forecast	Error
1	14675		.5			
2	14675	14675	.5			
3	14715	14695			14675	-40
4	14715	14715			14695	-20
5	15120	14917.5			14715	-405
6	15120	15120			14917.5	-202.5
7	14845	14982.5			15120	275
8	14845	14845			14982.5	137.5
9	14765	14805			14845	80
10	14765	14765			14805	40
11	16140	15452.5			14765	-1375
12	16140	16140			15452.5	-687.5
13	14970	15555			16140	1170
14	14970	14970			15555	585
15	16210	15590			14970	-1240
16	16210	16210			15590	-620
17	14760	15485			16210	1450
18	14760	14760			15485	725
19	16510	15635			14760	-1750
20	16510	16510			15635	-875
21	15210	15860			16510	1300
22	15210	15210			15860	650
23	15005	15107.5			15210	205
24	15005	15005			15107.5	102.5
25					15005	
26					15005	
27					15005	
28					15005	
29					15005	
30					15005	
31					15005	
32					15005	
33					15005	
34					15005	
35					15005	
36					15005	

Weighted moving average: CPU Seconds = 0  
MAD = 633.41    MSD = 678511.4    Bias = -22.50    R-square = 0  
M = 2

## Metode Single Exponential Smoothing

05-26-2004 02:35:50		Forecast Results for Garut			Page: 1 of 1	
Period	Actual	F(t)		Forecast	Error	
1	14675	14675				
2	14675	14675		14675	0	
3	14715	14714.99		14675	-40	
4	14715	14715		14714.99	-0.0058593	
5	15120	15119.94		14715	-405	
6	15120	15120		15119.94	-0.0566406	
7	14845	14845.04		15120	275	
8	14845	14845		14845.04	0.03808593	
9	14765	14765.01		14845	80	
10	14765	14765		14765.01	0.01074218	
11	16140	16139.81		14765	-1375	
12	16140	16140		16139.81	-0.1923828	
13	14970	14970.16		16140	1170	
14	14970	14970		14970.16	.1640625	
15	16210	16209.83		14970	-1240	
16	16210	16210		16209.83	-0.1738281	
17	14760	14760.2		16210	1450	
18	14760	14760		14760.2	.203125	
19	16510	16509.75		14760	-1750	
20	16510	16510		16509.75	-0.2460938	
21	15210	15210.18		16510	1300	
22	15210	15210		15210.18	.1816406	
23	15005	15005.03		15210	205	
24	15005	15005		15005.03	0.02832031	
25				15005		
26				15005		
27				15005		
28				15005		
29				15005		
30				15005		
31				15005		
32				15005		
33				15005		
34				15005		
35				15005		
36				15005		

Single exponential smoothing: CPU Seconds = 0			
MAD = 403.97	MSD = 519208.7	Bias = -14.35	R-square = 0
Alpha = .99986		Search criterion: MAD	

*Lampiran E*

*Uji Verifikasi*

*Lampiran F*

*Data Laporan Stok di Gudang*

TANGGAL	RAB
BUFFER STOCK	37,000
SALDO AWAL	36,250
1/1/2004	32,900
1/2/2004	29,480
1/3/2004	62,945
1/4/2004	59,885
1/5/2004	56,270
1/6/2004	53,310
1/7/2004	53,310
1/8/2004	50,390
1/9/2004	46,915
1/10/2004	44,040
1/11/2004	41,120
1/12/2004	38,105
1/13/2004	35,130
1/14/2004	35,130
1/15/2004	31,860
1/16/2004	28,720
1/17/2004	62,385
1/18/2004	59,395
1/19/2004	56,290
1/20/2004	52,600
1/21/2004	52,600
1/22/2004	52,600
1/23/2004	49,740
1/24/2004	46,315
1/25/2004	43,300
1/26/2004	40,230
1/27/2004	37,010
1/28/2004	37,010
1/29/2004	33,770
1/30/2004	30,565
1/31/2004	65,020

TANGGAL	RAB
2/1/2004	61,380
2/2/2004	58,275
2/3/2004	54,955
2/4/2004	54,955
2/5/2004	51,380
2/6/2004	47,910
2/7/2004	44,695
2/8/2004	41,470
2/9/2004	41,470
2/10/2004	38,150
2/11/2004	38,150
2/12/2004	34,825
2/13/2004	31,310
2/14/2004	67,935
2/15/2004	64,485
2/16/2004	60,960
2/17/2004	57,690
2/18/2004	57,690
2/19/2004	54,175
2/20/2004	50,805
2/21/2004	47,525
2/22/2004	44,060
2/23/2004	40,915
2/24/2004	37,455
2/25/2004	37,455
2/26/2004	33,925
2/27/2004	30,480
2/28/2004	65,540
2/29/2004	62,175
2/30/2004	58,600

TANGGAL	RAB
3/1/2004	55,470
3/2/2004	55,470
3/3/2004	55,470
3/4/2004	52,155
3/5/2004	48,885
3/6/2004	45,870
3/7/2004	42,845
3/8/2004	39,495
3/9/2004	39,495
3/10/2004	36,270
3/11/2004	33,165
3/12/2004	66,615
3/13/2004	63,690
3/14/2004	60,815
3/15/2004	57,630
3/16/2004	57,630
3/17/2004	54,415
3/18/2004	51,370
3/19/2004	48,225
3/20/2004	48,225
3/21/2004	45,330
3/22/2004	42,315
3/23/2004	42,315
3/24/2004	39,245
3/25/2004	35,805
3/26/2004	71,610
3/27/2004	68,490
3/28/2004	65,620
3/29/2004	62,245
3/30/2004	62,245
3/31/2004	59,130

**Rata-rata 48,877**

*Lampiran G*

*Perhitungan Pengendalian Persediaan*

*Dengan Metode DRP*

*(Juni 2004 – November 2004)*

*Lampiran H*

*Perhitungan Pengendalian Persediaan*

*Dengan Metode Perusahaan*

*(Juni 2003 – Mei 2004)*



*Lampiran I*

*Perhitungan Pengendalian Persediaan*

*Dengan Metode DRP*

*(Juni 2003 – Mei 2004)*

### Uji Verifikasi Untuk Distrik Bandung

t	dt	dt'	dt'-dt	MRt
1	35740	-	-	-
2	35740	35740	0	-
3	39215	35740	-3475	3475
4	39215	39214.51	-0.49	3474.51
5	38420	39215	795	795.49
6	38420	38420.11	0.11	794.89
7	40705	38420	-2285	2285.11
8	40705	40704.68	-0.32	2284.68
9	37655	40705	3050	3050.32
10	37655	37665.43	10.43	3039.57
11	44715	37665	-7050	7060.43
12	44715	44714.01	-0.99	7049.01
13	36510	44715	8205	8205.99
14	36510	36511.15	1.15	8203.85
15	37865	36510	-1355	1356.15
16	37865	37864.81	-0.19	1354.81
17	39410	37865	-1545	1544.81
18	39410	39409.79	-0.21	1544.79
19	41255	39410	-1845	1844.79
20	41255	41254.74	-0.26	1844.74
21	42160	41255	-905	904.74
22	42160	42159.88	-0.12	904.88
23	37880	42160	4280	4280.12
24	37880	37880.6	0.6	4279.4
Jumlah				69578.08

Dimana :  $MRt = |(dt' - dt) - (d'_{t-1} - d_{t-1})|$ ;

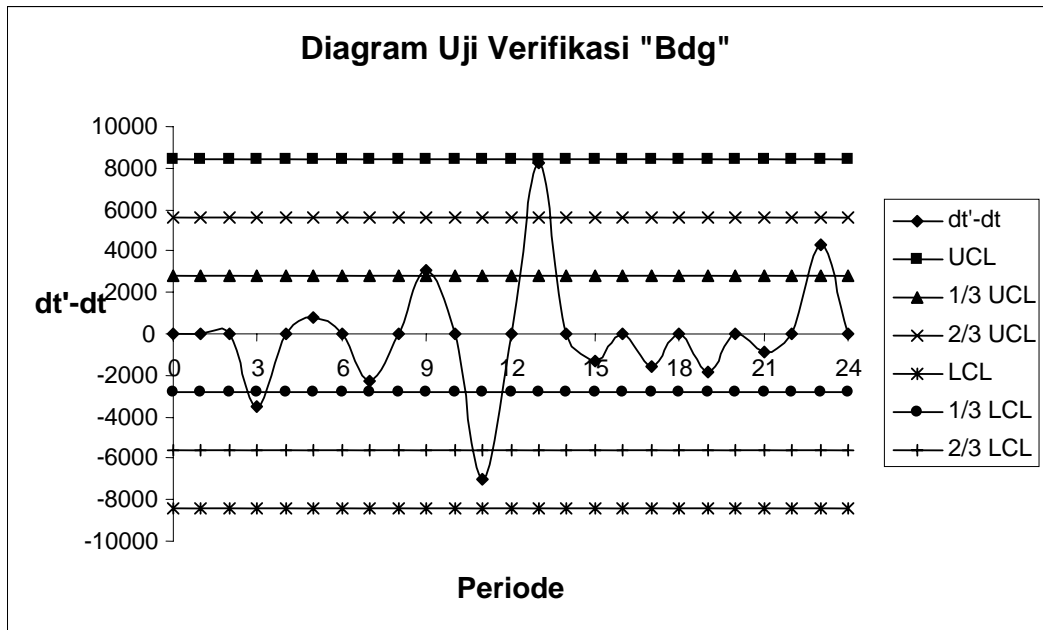
$$\overline{MR} = \frac{\sum MRt}{n-1} = \frac{69578.08}{23-1} = 3162.64$$

$$UCL = +2.66\overline{MR} = 2.66(3162.64) = 8412.62$$

$$\frac{1}{3}UCL = 2804.21; \frac{2}{3}UCL = 5608.41$$

$$LCL = -2.66\overline{MR} = -2.66(3162.64) = -8412.62$$

$$\frac{1}{3}LCL = -2804.21; \frac{2}{3}LCL = -5608.41$$



*Syarat Out of Controll :*

1. Ada titik di luar UCL / LCL : tidak
2. Dari 3 titik berturut-turut ada 2 titik atau lebih berada di A : tidak
3. Dari 5 titik berturut-turut ada 4 titik atau lebih berada di B : tidak
4. Ada 8 titik berturut-turut ada di salah satu sisi : tidak

**Kesimpulan : In Controll** → pola data masa lalu mengikuti metode peramalan *Single Exponential Smoothing*.

### Uji Verifikasi Untuk Distrik Tasikmalaya

t	dt	dt'	dt'-dt	MRt
1	16150	-	-	-
2	16150	16150	0	-
3	15305	16150	845	845
4	15305	15305.12	0.12	844.88
5	15890	15305	-585	585.12
6	15890	15889.92	-0.08	584.92
7	16810	15890	-920	919.92
8	16810	16809.87	-0.13	919.87
9	18150	16810	-1340	1339.87
10	18150	18149.81	-0.19	1339.81
11	22170	18150	-4020	4019.81
12	22170	20669.4	-1500.6	2519.4
13	15775	20670	4895	6395.6
14	15775	15775.9	0.9	4894.1
15	17850	15775	-2075	2075.9
16	17850	17849.71	-0.29	2074.71
17	19275	17850	-1425	1424.71
18	19275	19274.8	-0.2	1424.8
19	18230	19275	1045	1045.2
20	18230	18230.15	0.15	1044.85
21	17120	18230	1110	1109.85
22	17120	17120.16	0.16	1109.84
23	19515	17120	-2395	2395.16
24	19515	19514.66	-0.34	2394.66
			Jumlah	41307.98

Dimana :  $MRt = |(dt'-dt) - (d'_{t-1} - d_{t-1})|$ ;

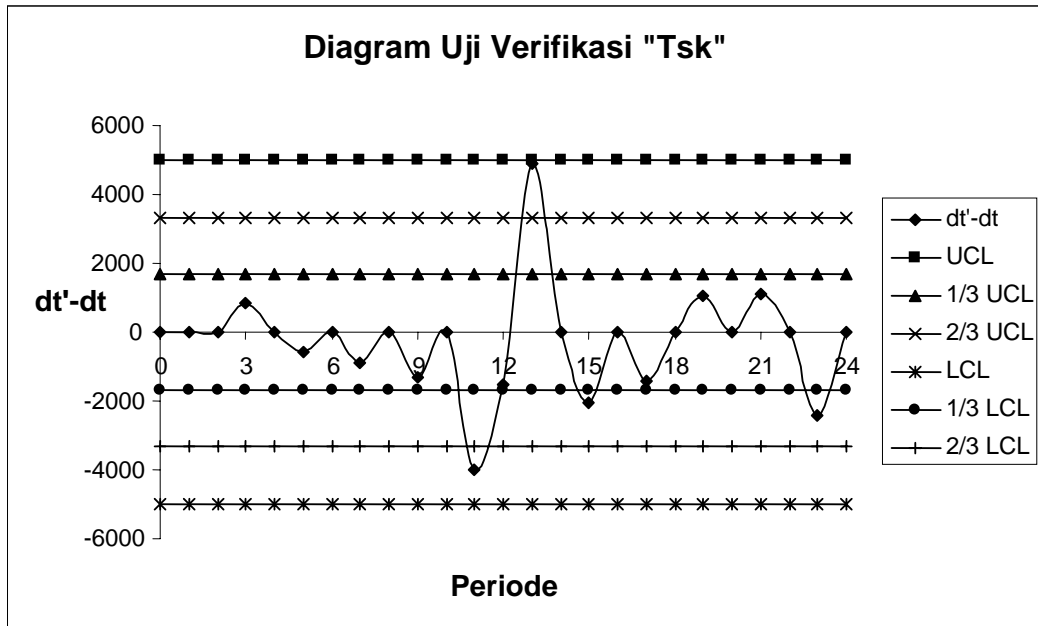
$$\overline{MR} = \frac{\sum MRt}{n-1} = \frac{41307.98}{23-1} = 1877.635$$

$$UCL = +2.66\overline{MR} = 2.66(1877.635) = 4994.51$$

$$\frac{1}{3}UCL = 1664.84; \frac{2}{3}UCL = 3329.67$$

$$LCL = -2.66\overline{MR} = -2.66(1877.635) = -4994.51$$

$$\frac{1}{3}LCL = -1664.84; \frac{2}{3}LCL = -3329.67$$



*Syarat Out of Controll :*

1. Ada titik di luar UCL / LCL → ×
2. Dari 3 titik berturut-turut ada 2 titik atau lebih berada di A → ×
3. Dari 5 titik berturut-turut ada 4 titik atau lebih berada di B → ×
4. Ada 8 titik berturut-turut ada di salah satu sisi → ×

**Kesimpulan : In of Controll** → pola data masa lalu masih dapat diterapkan pada masa yang akan datang.

### Uji Verifikasi Untuk Distrik Cianjur

t	dt	dt'	dt'-dt	MRt
1	21165	-	-	-
2	21165	21165	0	-
3	23875	21165	-2710	2710
4	23875	23874.62	-0.38	2709.62
5	24180	23875	-305	304.62
6	24180	24179.96	-0.04	304.96
7	22770	24180	1410	1410.04
8	22770	22770.2	0.2	1409.8
9	24775	22770	-2005	2005.2
10	24775	24774.72	-0.28	2004.72
11	25715	24775	-940	939.72
12	25715	25714.87	-0.13	939.87
13	21045	25715	4670	4670.13
14	21045	21045.65	0.65	4669.35
15	23850	21045	-2805	2805.65
16	23850	23849.61	-0.39	2804.61
17	23015	23850	835	835.39
18	23015	23015.12	0.12	834.88
19	24455	23015	-1440	1440.12
20	24455	24454.8	-0.2	1439.8
21	25680	24455	-1225	1224.8
22	25680	25679.83	-0.17	1224.83
23	26705	25680	-1025	1024.83
24	26705	26704.86	-0.14	1024.86
Jumlah				38737.8

Dimana :  $MRt = |(dt' - dt) - (d'_{t-1} - d_{t-1})|$ ;

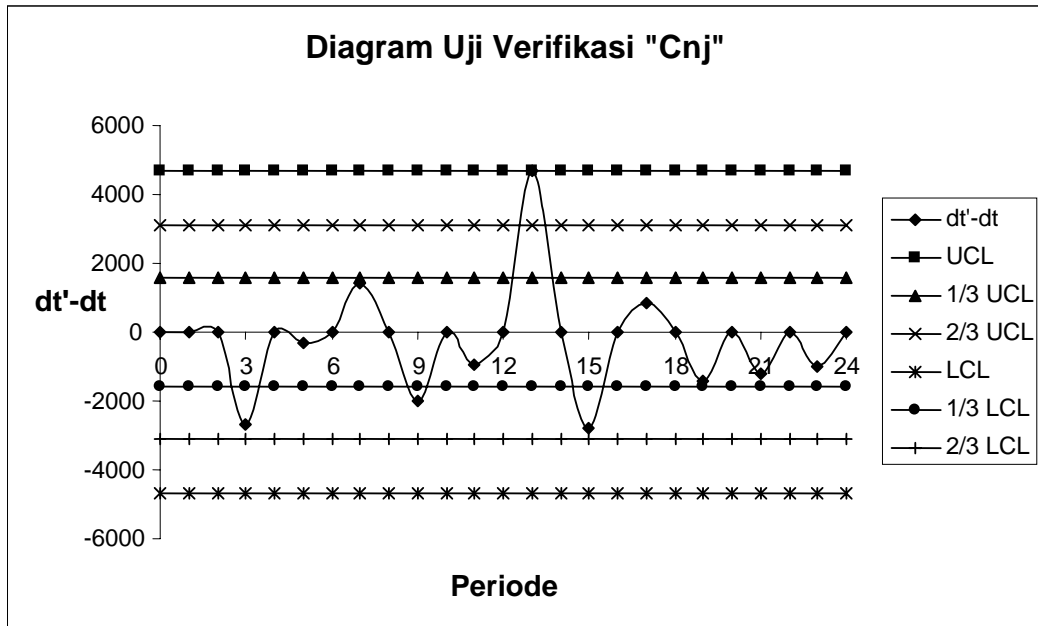
$$\overline{MR} = \frac{\sum MRt}{n-1} = \frac{38737.8}{23-1} = 1760.81$$

$$UCL = +2.66\overline{MR} = 2.66(1760.81) = 4683.75$$

$$\frac{1}{3}UCL = 1561.25; \frac{2}{3}UCL = 3122.50$$

$$LCL = -2.66\overline{MR} = -2.66(1760.81) = -4683.75$$

$$\frac{1}{3}LCL = -1561.25; \frac{2}{3}LCL = -3122.50$$



*Syarat Out of Controll :*

1. Ada titik di luar UCL / LCL → ×
2. Dari 3 titik berturut-turut ada 2 titik atau lebih berada di A → ×
3. Dari 5 titik berturut-turut ada 4 titik atau lebih berada di B → ×
4. Ada 8 titik berturut-turut ada di salah satu sisi → ×

**Kesimpulan : In of Controll** → pola data masa lalu masih dapat diterapkan pada masa yang akan datang.

### Uji Verifikasi Untuk Distrik Subang

t	dt	dt'	dt'-dt	MRt
1	25435	-	-	-
2	25435	25435	0	-
3	24765	25435	670	670
4	24765	24765.09	0.09	669.91
5	26450	24765	-1685	1685.09
6	26450	26449.76	-0.24	1684.76
7	27515	26450	-1065	1064.76
8	27515	27514.85	-0.15	1064.85
9	28200	27515	-685	684.85
10	28200	28199.9	-0.1	684.9
11	31470	28200	-3270	3269.9
12	31470	31469.54	-0.46	3269.54
13	27885	31470	3585	3585.46
14	27885	27885.5	0.5	3584.5
15	29310	27885	-1425	1425.5
16	29310	29309.8	-0.2	1424.8
17	30415	29310	-1105	1104.8
18	30415	30414.85	-0.15	1104.85
19	28975	30415	1440	1440.15
20	28975	28975.2	0.2	1439.8
21	27635	28975	1340	1339.8
22	27635	27635.19	0.19	1339.81
23	29790	27635	-2155	2155.19
24	29790	29789.7	-0.3	2154.7
Jumlah				36847.92

Dimana :  $MRt = |(dt' - dt) - (d'_{t-1} - d_{t-1})|$ ;

$$\overline{MR} = \frac{\sum MRt}{n-1} = \frac{36847.92}{23-1} = 1674.91$$

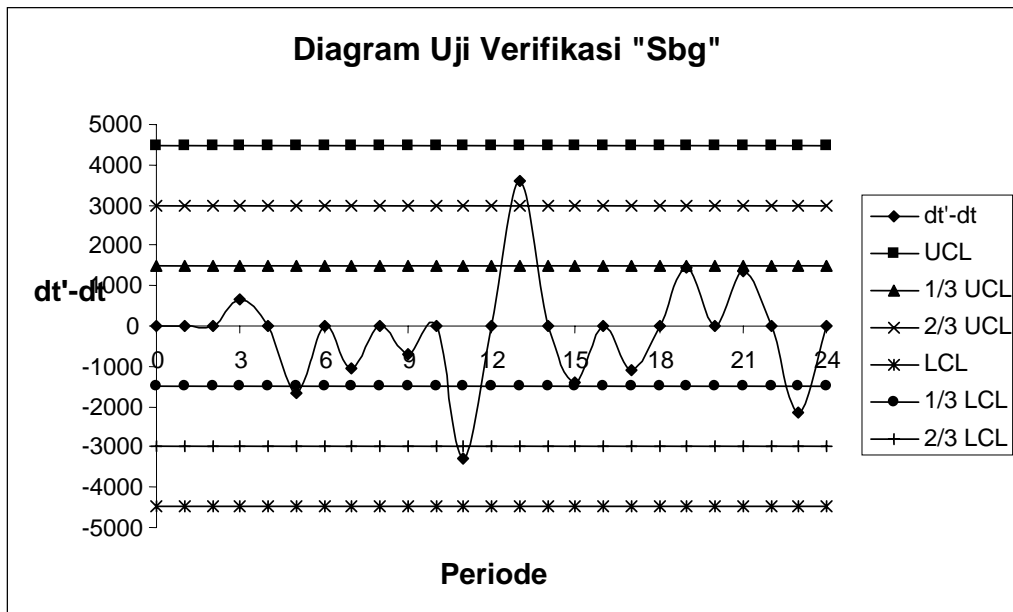
$$UCL = +2.66\overline{MR} = 2.66(1674.91) = 4455.25$$

$$\frac{1}{3}UCL = 1485.08; \frac{2}{3}UCL = 2970.17$$

$$LCL = -2.66\overline{MR} = -2.66(1674.91) = -4455.25$$

$$\frac{1}{3}LCL = -1485.08; \frac{2}{3}LCL = -2970.17$$





*Syarat Out of Controll :*

1. Ada titik di luar UCL / LCL → ×
2. Dari 3 titik berturut-turut ada 2 titik atau lebih berada di A → ×
3. Dari 5 titik berturut-turut ada 4 titik atau lebih berada di B → ×
4. Ada 8 titik berturut-turut ada di salah satu sisi → ×

**Kesimpulan : In of Controll** → pola data masa lalu masih dapat diterapkan pada masa yang akan datang.

### Uji Verifikasi Untuk Distrik Purwakarta

t	dt	dt'	dt'-dt	MRt
1	27445	-	-	-
2	27445	27445	0	-
3	26530	27445	915	915
4	26530	27174.81	644.81	270.19
5	28445	26984.41	-1460.59	2105.4
6	28445	27415.7	-1029.3	431.29
7	27610	27719.64	109.64	1138.94
8	27610	27687.26	77.26	32.38
9	29840	27664.45	-2075.55	2152.81
10	29840	28306.86	-1533.14	542.41
11	28760	28759.57	-0.43	1532.71
12	28760	28759.7	-0.3	0.13
13	28570	28759.79	189.79	190.09
14	28570	28703.75	133.75	56.04
15	28940	28664.25	-275.75	409.5
16	28940	28745.68	-194.32	81.43
17	29160	28803.06	-356.94	162.62
18	29160	28908.46	-251.54	105.4
19	27890	28982.73	1092.73	1344.27
20	27890	28660.06	770.06	322.67
21	30125	28432.68	-1692.32	2462.38
22	30125	28932.39	-1192.61	499.71
23	27880	29284.55	1404.55	2597.16
24	27880	28869.81	989.81	414.74
Jumlah				17767.27

Dimana :  $MRt = |(dt' - dt) - (d'_{t-1} - d_{t-1})|$ ;

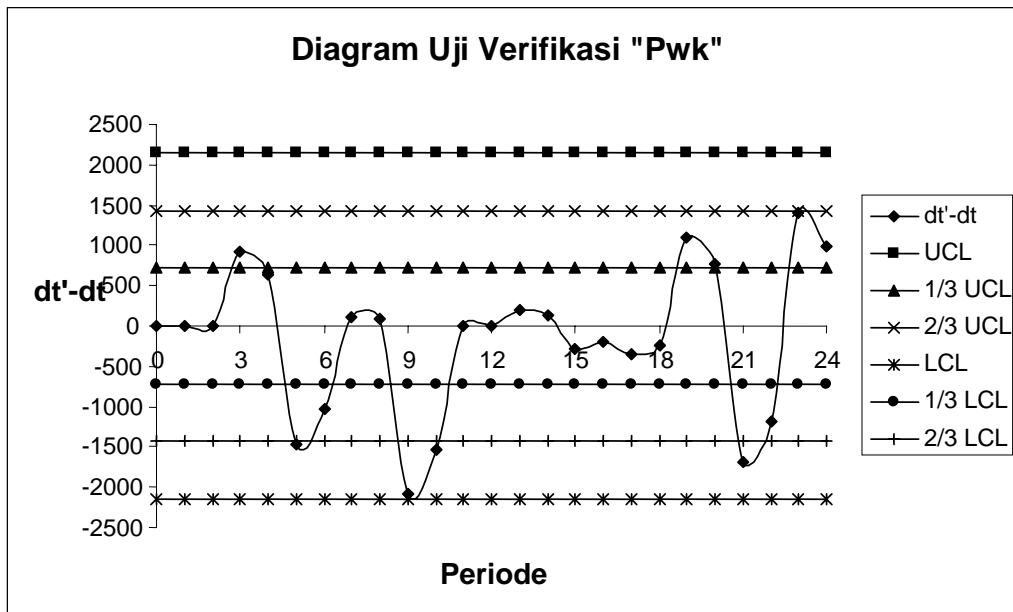
$$\overline{MR} = \frac{\sum MRt}{n-1} = \frac{17767.27}{23-1} = 807.60$$

$$UCL = +2.66\overline{MR} = 2.66(807.60) = 2148.22$$

$$\frac{1}{3}UCL = 716.07; \frac{2}{3}UCL = 1432.15$$

$$LCL = -2.66\overline{MR} = -2.66(807.60) = -2148.22$$

$$\frac{1}{3}LCL = -716.07; \frac{2}{3}LCL = -1432.15$$



*Syarat Out of Controll :*

1. Ada titik di luar UCL / LCL → ×
2. Dari 3 titik berturut-turut ada 2 titik atau lebih berada di A → ×
3. Dari 5 titik berturut-turut ada 4 titik atau lebih berada di B → ×
4. Ada 8 titik berturut-turut ada di salah satu sisi → ×

**Kesimpulan : In of Controll** → pola data masa lalu masih dapat diterapkan pada masa yang akan datang.

### Uji Verifikasi Untuk Distrik Sumedang

t	dt	dt'	dt'-dt	MRt
1	36745	-	-	-
2	36745	36745	0	-
3	35195	36745	1550	1550
4	35195	35195.22	0.22	1549.78
5	36515	35195	-1320	1320.22
6	36515	36514.82	-0.18	1319.82
7	34810	36515	1705	1705.18
8	34810	34810.24	0.24	1704.76
9	36855	34810	-2045	2045.24
10	36855	36854.71	-0.29	2044.71
11	41890	36855	-5035	5034.71
12	41890	40889.29	-1000.71	4034.29
13	34735	40890	6155	7155.71
14	34735	34736	1	6154
15	38765	34735	-4030	4031
16	38765	38764.43	-0.57	4029.43
17	36915	38765	1850	1850.57
18	36915	36915.26	0.26	1849.74
19	37250	36915	-335	335.26
20	37250	37249.95	-0.05	334.95
21	38475	37250	-1225	1224.95
22	38475	38474.83	-0.17	1224.83
23	39350	38475	-875	874.83
24	39350	39349.88	-0.12	874.88
Jumlah				52248.86

Dimana :  $MRt = |(dt' - dt) - (d'_{t-1} - d_{t-1})|$ ;

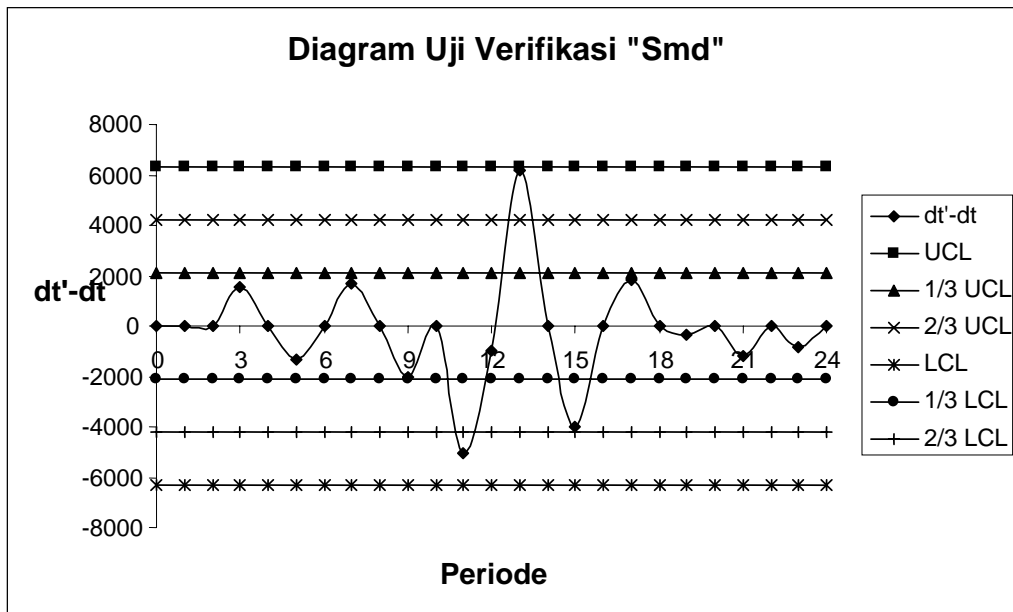
$$\overline{MR} = \frac{\sum MRt}{n-1} = \frac{52248.86}{23-1} = 2374.95$$

$$UCL = +2.66\overline{MR} = 2.66(2374.95) = 6317.36$$

$$\frac{1}{3}UCL = 2105.79; \frac{2}{3}UCL = 4211.57$$

$$LCL = -2.66\overline{MR} = -2.66(2374.95) = -6317.36$$

$$\frac{1}{3}LCL = -2105.79; \frac{2}{3}LCL = -4211.57$$



*Syarat Out of Controll :*

1. Ada titik di luar UCL / LCL → ×
2. Dari 3 titik berturut-turut ada 2 titik atau lebih berada di A → ×
3. Dari 5 titik berturut-turut ada 4 titik atau lebih berada di B → ×
4. Ada 8 titik berturut-turut ada di salah satu sisi → ×

**Kesimpulan : In of Controll** → pola data masa lalu masih dapat diterapkan pada masa yang akan datang.

### Uji Verifikasi Untuk Distrik Cirebon

t	dt	dt'	dt'-dt	MRt
1	26740	-	-	-
2	26740	26740	0	-
3	28470	26740	-1730	1730
4	28470	28469.76	-0.24	1729.76
5	27165	28470	1305	1305.24
6	27165	27165.18	0.18	1304.82
7	26450	27165	715	714.82
8	26450	26450.1	0.1	714.9
9	29205	26450	-2755	2755.1
10	29205	29204.61	-0.39	2754.61
11	34060	29205	-4855	4854.61
12	34060	32559.32	-1500.68	3354.32
13	26215	32560	6345	7845.68
14	26215	26216.1	1.1	6343.9
15	28740	26215	-2525	2526.1
16	28740	28739.65	-0.35	2524.65
17	29215	28740	-475	474.65
18	29215	29214.93	-0.07	474.93
19	31880	29215	-2665	2664.93
20	31880	31879.63	-0.37	2664.63
21	30460	31880	1420	1420.37
22	30460	30460.2	0.2	1419.8
23	32290	30460	-1830	1830.2
24	32290	32289.74	-0.26	1829.74
Jumlah				53237.76

Dimana :  $MRt = |(dt' - dt) - (d'_{t-1} - d_{t-1})|$ ;

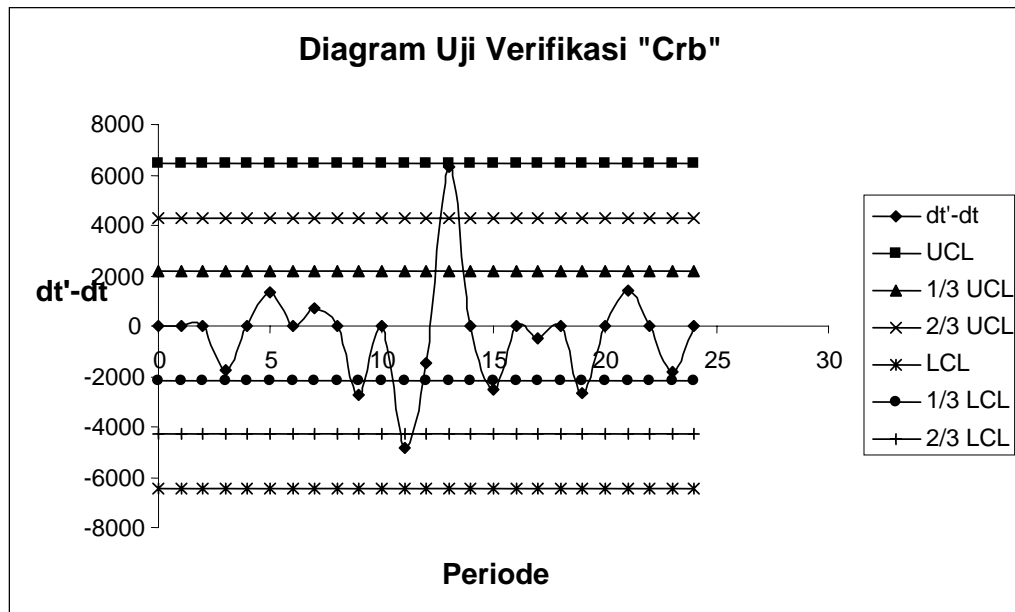
$$\overline{MR} = \frac{\sum MRt}{n-1} = \frac{53237.76}{23-1} = 2419.90$$

$$UCL = +2.66\overline{MR} = 2.66(2419.90) = 6436.93$$

$$\frac{1}{3}UCL = 2145.64; \frac{2}{3}UCL = 4291.29$$

$$LCL = -2.66\overline{MR} = -2.66(2419.90) = -6436.93$$

$$\frac{1}{3}LCL = -2145.64; \frac{2}{3}LCL = -4291.29$$



*Syarat Out of Controll :*

1. Ada titik di luar UCL / LCL → ×
2. Dari 3 titik berturut-turut ada 2 titik atau lebih berada di A → ×
3. Dari 5 titik berturut-turut ada 4 titik atau lebih berada di B → ×
4. Ada 8 titik berturut-turut ada di salah satu sisi → ×

**Kesimpulan : In of Controll** → pola data masa lalu masih dapat diterapkan pada masa yang akan datang.

### Uji Verifikasi Untuk Distrik Sukabumi

t	dt	dt'	dt'-dt	MRt
1	17615	-	-	-
2	17615	17615	0	-
3	18420	17615	-805	805
4	18420	18419.89	-0.11	804.89
5	17560	18420	860	860.11
6	17560	17560.12	0.12	859.88
7	19725	17560	-2165	2165.12
8	19725	19724.7	-0.3	2164.7
9	21040	19725	-1315	1314.7
10	21040	21039.82	-0.18	1314.82
11	24330	21040	-3290	3289.82
12	24330	24329.54	-0.46	3289.54
13	19520	24330	4810	4810.46
14	19520	19520.67	0.67	4809.33
15	22140	19520	-2620	2620.67
16	22140	22139.63	-0.37	2619.63
17	20570	22140	1570	1570.37
18	20570	20570.22	0.22	1569.78
19	21855	22570	715	714.78
20	21855	21854.82	-0.18	715.18
21	22320	21855	-465	464.82
22	22320	22319.94	-0.06	464.94
23	20875	22320	1445	1445.06
24	20875	20875.2	0.2	1444.8
Jumlah				40118.4

Dimana :  $MRt = |(dt' - dt) - (d'_{t-1} - d_{t-1})|$ ;

$$\overline{MR} = \frac{\sum MRt}{n-1} = \frac{40118.4}{23-1} = 1823.56$$

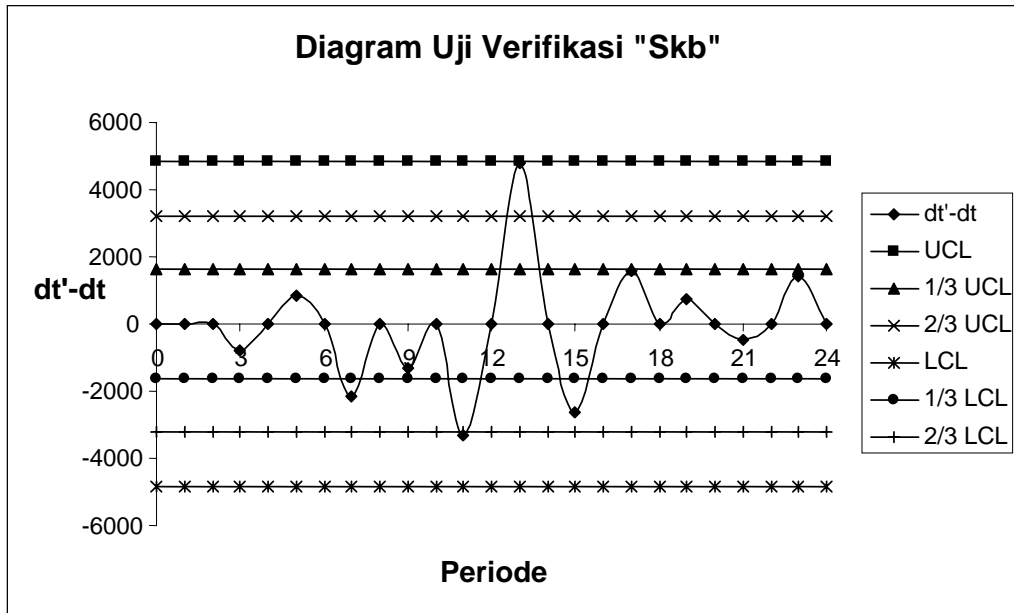
$$UCL = +2.66\overline{MR} = 2.66(1823.56) = 4850.68$$

$$\frac{1}{3}UCL = 1616.89; \frac{2}{3}UCL = 3233.79$$

$$LCL = -2.66\overline{MR} = -2.66(1823.56) = -4850.68$$

$$\frac{1}{3}LCL = -1616.89; \frac{2}{3}LCL = -3233.79$$





*Syarat Out of Controll :*

1. Ada titik di luar UCL / LCL → ×
2. Dari 3 titik berturut-turut ada 2 titik atau lebih berada di A → ×
3. Dari 5 titik berturut-turut ada 4 titik atau lebih berada di B → ×
4. Ada 8 titik berturut-turut ada di salah satu sisi → ×

**Kesimpulan : In of Controll** → pola data masa lalu masih dapat diterapkan pada masa yang akan datang.

### Uji Verifikasi Untuk Distrik Garut

t	dt	dt'	dt'-dt	MRt
1	14675	-	-	-
2	14675	14675	0	-
3	14715	14675	-40	40
4	14715	14714.99	-0.01	39.99
5	15120	14715	-405	404.99
6	15120	15119.94	-0.06	404.94
7	14845	15120	275	275.06
8	14845	14845.04	0.04	274.96
9	14765	14845	80	79.96
10	14765	14765.01	0.01	79.99
11	16140	14765	-1375	1375.01
12	16140	16139.81	-0.19	1374.81
13	14970	16140	1170	1170.19
14	14970	14970.16	0.16	1169.84
15	16210	14970	-1240	1240.16
16	16210	16209.83	-0.17	1239.83
17	14760	16210	1450	1450.17
18	14760	14760.2	0.2	1449.8
19	16510	14760	-1750	1750.2
20	16510	16509.75	-0.25	1749.75
21	15210	16510	1300	1300.25
22	15210	15210.18	0.18	1299.82
23	15005	15210	205	204.82
24	15005	15005.03	0.03	204.97
Jumlah				18579.51

Dimana :  $MRt = |(dt' - dt) - (d'_{t-1} - d_{t-1})|$ ;

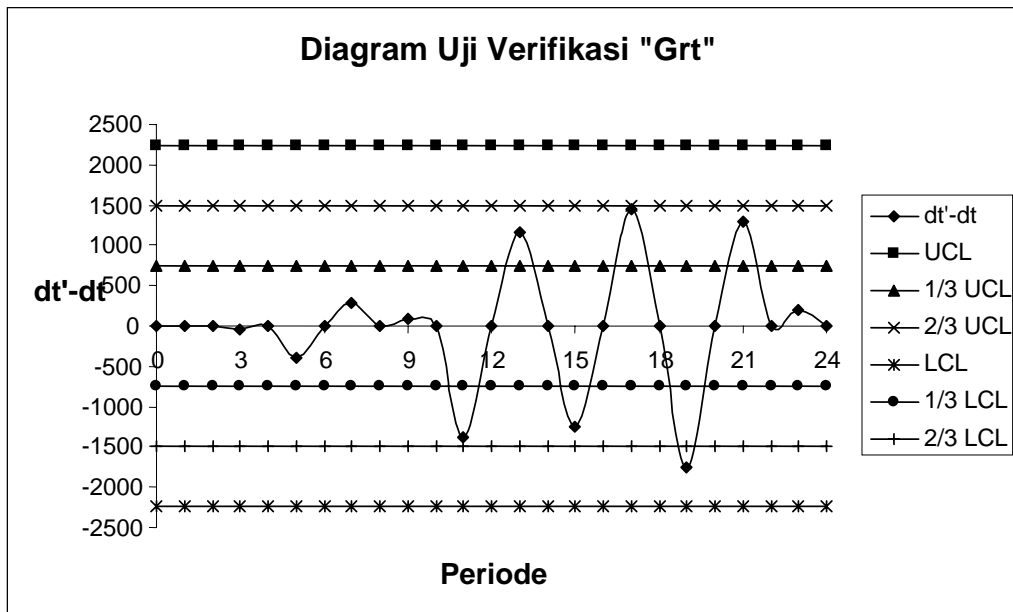
$$\overline{MR} = \frac{\sum MRt}{n-1} = \frac{18579.51}{23-1} = 844.52$$

$$UCL = +2.66\overline{MR} = 2.66(844.52) = 2246.43$$

$$\frac{1}{3}UCL = 748.81; \frac{2}{3}UCL = 1497.62$$

$$LCL = -2.66\overline{MR} = -2.66(844.52) = -2246.43$$

$$\frac{1}{3}LCL = -748.81; \frac{2}{3}LCL = -1497.62$$



*Syarat Out of Controll :*

1. Ada titik di luar UCL / LCL → ×
2. Dari 3 titik berturut-turut ada 2 titik atau lebih berada di A → ×
3. Dari 5 titik berturut-turut ada 4 titik atau lebih berada di B → ×
4. Ada 8 titik berturut-turut ada di salah satu sisi → ×

**Kesimpulan : In of Controll** → pola data masa lalu masih dapat diterapkan pada masa yang akan datang.