

ES (EWMA)**Rumus Winters (1960), Referensi: Vollman (1997); Smith (1989)** $\alpha = 0,1$

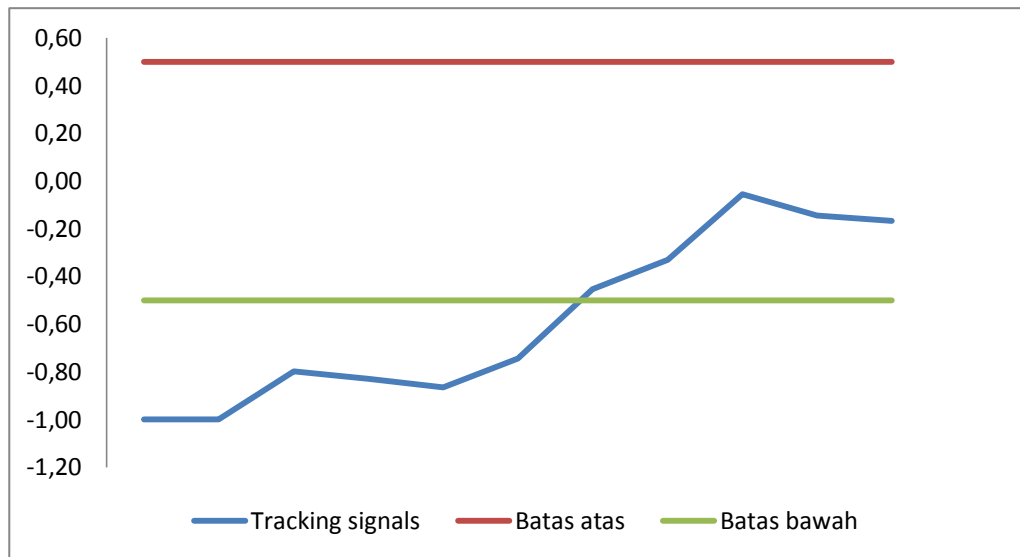
Period	Dt	St	Forecast (t)	Error (t) (Dt-St)	Smoothed Error (t)	Smoothed MAD (t)	Tracking signals
1	47		47				
2	42	46,50	46,50	-4,50	-0,45	0,45	-1,00
3	16	43,45	43,45	-27,45	-3,15	3,15	-1,00
4	47	43,81	43,81	3,19	-2,52	3,15	-0,80
5	38	43,22	43,22	-5,22	-2,79	3,36	-0,83
6	34	42,30	42,30	-8,30	-3,34	3,86	-0,87
7	45	42,57	42,57	2,43	-2,76	3,71	-0,74
8	50	43,31	43,31	6,69	-1,82	4,01	-0,45
9	47	43,68	43,68	3,32	-1,30	3,94	-0,33
10	54	44,71	44,71	9,29	-0,24	4,48	-0,05
11	40	44,24	44,24	-4,24	-0,64	4,45	-0,14
12	43	44,12	44,12	-1,12	-0,69	4,12	-0,17
13		39,71	39,71				

Batas atas (bawah) yang umum digunakan pada Tracking Signals = 0.5 (-0.5).

$$\text{Tracking Signals}_t = \frac{\text{smoothed MFE}_t}{\text{smoothed MAD}_t}$$

$$\text{smoothed Error}_t = (\alpha)\text{Error}_t + (1 - \alpha)\text{smoothed Error}_{t-1}$$

$$\text{smoothed MAD}_t = (\alpha)|\text{Error}_t| + (1 - \alpha)\text{smoothed MAD}_{t-1}$$



ES (EWMA) w Trend

Rumus Winters (1960), referensi: Vollman (1997); Smith (1989)

$a =$ 0,1 $f1 =$ 40,00

$b =$ 0,1 $T1 =$ 0

Period	Demand	Base Value	Trend	Forecast (t+1)
1	47	40	0	40
2	42	40,20	0,020	40,22
3	16	37,80	-0,222	37,58
4	47	38,52	-0,128	38,39
5	38	38,35	-0,132	38,22
6	34	37,80	-0,174	37,62
7	45	38,36	-0,100	38,26
8	50	39,43	0,017	39,45
9	47	40,21	0,093	40,30
10	54	41,67	0,230	41,90
11	40	41,71	0,211	41,92
12	43	42,03	0,221	42,25
13		38,02	-0,201	

Perhitungan Tracking Signals (Lihat Sheet ES (EWMA))

ES (EWMA) w Trend 'n Seasonal

Rumus Winters (1960), referensi: Vollman (1997); Smith (1989)

α : 0,3 I(F): 1,05

β : 0,5 I(S): 0,95

γ : 0,5

Periode	Demand Aktual	Base Value / Level	Trend	Indeks Seasonal	Forecast
6S		95	5		
7F	100	98,57	4,29	1,03	105,00
7S	110	106,74	6,23	0,99	97,71
8F	105	109,59	4,54	1,00	116,61
8S	130	119,27	7,11	1,04	113,02
9F					125,78
9S					138,85

Perhitungan Tracking Signals (Lihat Sheet ES (EWMA))