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Lampiran 1

Perhitungan Himpunan Semesta U untuk Tiap Interval Pada *Paper Bag*

No	Un	Himpunan Fuzzy	Data	
			Paper Bag Besar (pcs)	Paper Bag Sedang (pcs)
1	U_1	A_1	$1.878 + 214 = 2.092$ 1878 ; 2.092	$1.808 + 234 = 2.042$ 1.808 ; 2.042
2	U_2	A_2	$2.092 + 214 = 2.306$ 2.092 ; 2.306	$2.042 + 234 = 2.276$ 2.042 ; 2.276
3	U_3	A_3	$2.306 + 214 = 2.520$ 2.306 ; 2.520	$2.276 + 234 = 2.510$ 2.276 ; 2.510
4	U_4	A_4	$2.520 + 214 = 2.734$ 2.520 ; 2.734	$2.510 + 234 = 2.744$ 2.510 ; 2.744
5	U_5	A_5	$2.734 + 214 = 2.948$ 2.734 ; 2.948	$2.744 + 234 = 2.978$ 2.744 ; 2.978
6	U_6	A_6	$2.948 + 214 = 3.162$ 2.948 ; 3.162	$2.978 + 234 = 3.212$ 2.978 ; 3.212

Lampiran 2

Perhitungan Nilai Tengah Pada *Paper Bag*

No	mn	Data	
		Paper Bag Besar	Paper Bag Sedang
1	m_1	$\frac{1878 + 2.092}{2} = 1.985$	$\frac{1.808 + 2.042}{2} = 1.925$
2	m_2	$\frac{2.092 + 2.306}{2} = 2.199$	$\frac{2.042 + 2.276}{2} = 2.159$
3	m_3	$\frac{2.306 + 2.520}{2} = 2.413$	$\frac{2.276 + 2.510}{2} = 2.393$
4	m_4	$\frac{2.520 + 2.734}{2} = 2.672$	$\frac{2.510 + 2.744}{2} = 2.627$
5	m_5	$\frac{2.734 + 2.948}{2} = 2.841$	$\frac{2.744 + 2.978}{2} = 2.861$
6	m_6	$\frac{2.948 + 3.162}{2} = 3.055$	$\frac{2.978 + 3.212}{2} = 3.095$

Lampiran 3
Perhitungan Matriks *Paper Bag* ukuran Besar

P_{ij}		J					
		1	2	3	4	5	6
i	1	$\frac{2}{2} = 1$	0	0	0	0	0
	2	$\frac{2}{8} = 0,25$	$\frac{2}{8} = 0,25$	$\frac{3}{8} = 0,38$	$\frac{1}{8} = 0,13$	0	0
	3	0	$\frac{3}{5} = 0,6$	$\frac{1}{5} = 0,2$	$\frac{1}{5} = 0,2$	0	0
	4	0	0	$\frac{2}{5} = 0,4$	$\frac{1}{5} = 0,2$	$\frac{2}{5} = 0,4$	0
	5	0	0	0	0	$\frac{1}{2} = 0,5$	$\frac{1}{2} = 0,5$
	6	0	0	0	$\frac{1}{1} = 1$	0	0

Lampiran 4
Perhitungan Matriks *Paper Bag* ukuran Sedang

P_{ij}		J					
		1	2	3	4	5	6
I	1	$\frac{2}{3} = 0,67$	$\frac{1}{3} = 0,33$	0	0	0	0
	2	0	$\frac{2}{5} = 0,4$	$\frac{1}{5} = 0,2$	$\frac{2}{5} = 0,4$	0	0
	3	0	0	0	$\frac{2}{3} = 0,67$	$\frac{1}{3} = 0,33$	0
	4	0	$\frac{2}{5} = 0,4$	$\frac{1}{5} = 0,2$	$\frac{1}{5} = 0,2$	$\frac{1}{5} = 0,2$	0
	5	0	0	$\frac{1}{4} = 0,25$	$\frac{1}{4} = 0,25$	0	$\frac{5}{4} = 0,5$
	6	0	0	0	0	$\frac{2}{3} = 0,67$	$\frac{1}{3} = 0,33$

Lampiran 5

Perhitungan Peramalan Awal Pada *Paper Bag* Ukuran Besar

$$A_2 \rightarrow A_1$$

$$F_2 = m_1 P_{21} + Y_1 P_{22} + m_3 P_{23} + m_4 P_{24} + m_5 P_{25} + m_6 P_{26}$$

$$F_2 = (1.985 \times 0,25) + (2.157 \times 0,25) + (2.413 \times 0,38) + (2.672 \times 0,13) + (2.841 \times 0) + (3.055 \times 0)$$

$$F_2 = 496,25 + 539,25 + 916,94 + 347,36 + 0 + 0$$

$$F_2 = 2.299,80 \rightarrow 2.300 \text{ pcs}$$

$$A_1 \rightarrow A_2 \text{ (Memiliki relasi satu satu)}$$

$$F_3 = A_i \rightarrow A_k$$

$$F_3 = A_1 \rightarrow A_2$$

$$F_3 = 2.199 \text{ pcs}$$

$$A_2 \rightarrow A_3$$

$$F_4 = m_1 P_{21} + Y_3 P_{22} + m_3 P_{23} + m_4 P_{24} + m_5 P_{25} + m_6 P_{26}$$

$$F_4 = (1.985 \times 0,25) + (2.300 \times 0,25) + (2.413 \times 0,38) + (2.672 \times 0,13) + (2.841 \times 0) + (3.055 \times 0)$$

$$F_4 = 496,25 + 575 + 916,94 + 347,36 + 0 + 0$$

$$F_4 = 2.335,55 \rightarrow 2.336 \text{ pcs}$$

$$A_3 \rightarrow A_2$$

$$F_5 = m_1 P_{31} + m_2 P_{32} + Y_4 P_{33} + m_4 P_{34} + m_5 P_{35} + m_6 P_{36}$$

$$F_5 = (1.985 \times 0) + (2.199 \times 0,6) + (2.334 \times 0,2) + (2.672 \times 0,2) + (2.841 \times 0) + (3.055 \times 0)$$

$$F_5 = 0 + 1.319,4 + 466,8 + 534,4 + 0 + 0$$

$$F_5 = 2.320,60 \rightarrow 2.321 \text{ pcs}$$

$$A_2 \rightarrow A_3$$

$$F_6 = m_1 P_{21} + Y_5 P_{22} + m_3 P_{23} + m_4 P_{24} + m_5 P_{25} + m_6 P_{26}$$

$$F_6 = (1.985 \times 0,25) + (2.19907 \times 0,25) + (2.413 \times 0,38) + (2.672 \times 0,13) + (2.841 \times 0) + (3.055 \times 0)$$

$$F_6 = 496,25 + 526,75 + 916,94 + 347,36 + 0 + 0$$

$$F_6 = 2.352,30 \rightarrow 2.352 \text{ pcs}$$

$$A_3 \rightarrow A_3$$

$$F_7 = m_1 P_{31} + m_2 P_{32} + Y_6 P_{33} + m_4 P_{34} + m_5 P_{35} + m_6 P_{36}$$

$$F_7 = (1.985 \times 0) + (2.199 \times 0,6) + (2.367 \times 0,2) + (2.672 \times 0,2) + (2.841 \times 0) + (3.055 \times 0)$$

$$F_7 = 0 + 1.319,4 + 473,4 + 534,4 + 0 + 0$$

$$F_7=2.327,20 \rightarrow 2.327 \text{ pcs}$$

$$A_3 \rightarrow A_2$$

$$F_8 = m_1 P_{31} + m_2 P_{32} + Y_7 P_{33} + m_4 P_{34} + m_5 P_{35} + m_6 P_{36}$$

$$F_8 = (1.985 \times 0) + (2.199 \times 0,6) + (2.430 \times 0,2) + (2.672 \times 0,2) + (2.841 \times 0) + (3.055 \times 0)$$

$$F_8 = 0 + 1.319,4 + 486 + 534,4 + 0 + 0$$

$$F_8 = 2.339,80 \rightarrow 2.340 \text{ pcs}$$

$$A_2 \rightarrow A_2$$

$$F_9 = m_1 P_{21} + Y_8 P_{22} + m_3 P_{23} + m_4 P_{24} + m_5 P_{25} + m_6 P_{26}$$

$$F_9 = (1.985 \times 0,25) + (2.150 \times 0,25) + (2.413 \times 0,38) + (2.672 \times 0,13) + (2.841 \times 0) + (3.055 \times 0)$$

$$F_9 = 496,25 + 537,5 + 916,94 + 347,36 + 0 + 0$$

$$F_9 = 2.298,05 \rightarrow 2.298 \text{ pcs}$$

$$A_2 \rightarrow A_2$$

$$F_{10} = m_1 P_{21} + Y_9 P_{22} + m_3 P_{23} + m_4 P_{24} + m_5 P_{25} + m_6 P_{26}$$

$$F_{10} = (1.985 \times 0,25) + (2.180 \times 0,25) + (2.413 \times 0,38) + (2.672 \times 0,13) + (2.841 \times 0) + (3.055 \times 0)$$

$$F_{10} = 496,25 + 545 + 916,94 + 347,36 + 0 + 0$$

$$F_{10} = 2.305,55 \rightarrow 2.306 \text{ pcs}$$

$$A_2 \rightarrow A_1$$

$$F_{11} = m_1 P_{21} + Y_{10} P_{22} + m_3 P_{23} + m_4 P_{24} + m_5 P_{25} + m_6 P_{26}$$

$$F_{11} = (1.985 \times 0,25) + (2.200 \times 0,25) + (2.413 \times 0,38) + (2.672 \times 0,13) + (2.841 \times 0) + (3.055 \times 0)$$

$$F_{11} = 496,25 + 550 + 916,94 + 347,36 + 0 + 0$$

$$F_{11} = 2.310,55 \rightarrow 2.311 \text{ pcs}$$

$$A_1 \rightarrow A_2 \text{ (} A_1 \text{ Memiliki Relasi Satu Satu)}$$

$$F_{12} = A_i \rightarrow A_j = m_i$$

$$F_{12} = A_1 \rightarrow A_2 = m_1$$

$$F_{12} = 2.199 \text{ pcs}$$

$$A_2 \rightarrow A_3$$

$$F_{13} = m_1 P_{21} + Y_{12} P_{22} + m_3 P_{23} + m_4 P_{24} + m_5 P_{25} + m_6 P_{26}$$

$$F_{13} = (1.985 \times 0,25) + (2.284 \times 0,25) + (2.413 \times 0,38) + (2.672 \times 0,13) + (2.841 \times 0) + (3.055 \times 0)$$

$$F_{13} = 496,25 + 571 + 916,94 + 347,36 + 0 + 0$$

$$F_{13} = 2.331,55 \rightarrow 2.332 \text{ pcs}$$

$A_3 \rightarrow A_2$

$$F_{14} = m_1 P_{31} + m_2 P_{32} + Y_{13} P_{33} + m_4 P_{34} + m_5 P_{35} + m_6 P_{36}$$

$$F_{14} = (1.985 \times 0) + (2.199 \times 0,6) + (2.415 \times 0,2) + (2.672 \times 0,2) + (2.841 \times 0) + (3.055 \times 0)$$

$$F_{14} = 0 + 1.319,4 + 483 + 534,4 + 0 + 0$$

$$F_{14} = 2.336,80 \rightarrow 2.337 \text{ pcs}$$

$A_2 \rightarrow A_4$

$$F_{15} = m_1 P_{21} + Y_{14} P_{22} + m_3 P_{23} + m_4 P_{24} + m_5 P_{25} + m_6 P_{26}$$

$$F_{15} = (1.985 \times 0,25) + (2.160 \times 0,25) + (2.413 \times 0,38) + (2.672 \times 0,13) + (2.841 \times 0) + (3.055 \times 0)$$

$$F_{15} = 496,25 + 540 + 916,94 + 347,36 + 0 + 0$$

$$F_{15} = 2.300,55 \rightarrow 2.301 \text{ pcs}$$

$A_4 \rightarrow A_5$

$$F_{16} = m_1 P_{41} + m_2 P_{42} + m_3 P_{43} + Y_{15} P_{44} + m_5 P_{45} + m_6 P_{46}$$

$$F_{16} = (1.985 \times 0) + (2.199 \times 0) + (2.413 \times 0,4) + (2.580 \times 0,2) + (2.841 \times 0,4) + (3.055 \times 0)$$

$$F_{16} = 0 + 0 + 965,2 + 516 + 1.136,4 + 0$$

$$F_{16} = 2.617,60 \rightarrow 2.618 \text{ pcs}$$

$A_5 \rightarrow A_6$

$$F_{17} = m_1 P_{51} + m_2 P_{52} + m_3 P_{53} + m_4 P_{54} + Y_{16} P_{55} + m_6 P_{56}$$

$$F_{17} = (1.985 \times 0) + (2.199 \times 0) + (2.413 \times 0) + (2.672 \times 0) + (2.805 \times 0,5) + (3.055 \times 0,5)$$

$$F_{17} = 0 + 0 + 0 + 0 + 1.402,5 + 1.527,5$$

$$F_{17} = 2.930 \text{ pcs}$$

$A_6 \rightarrow A_4$ (Memiliki relasi satu ke satu)

$$F_{18} = A_i \rightarrow A_l = m_i$$

$$F_{18} = A_6 \rightarrow A_4 = m_4$$

$$F_{18} = 2.672 \text{ pcs}$$

$A_4 \rightarrow A_4$

$$F_{19} = m_1 P_{41} + m_2 P_{42} + m_3 P_{43} + Y_{18} P_{44} + m_5 P_{45} + m_6 P_{46}$$

$$F_{19} = (1.985 \times 0) + (2.199 \times 0) + (2.413 \times 0,4) + (2.540 \times 0,2) + (2.841 \times 0,4) + (3.055 \times 0)$$

$$F_{19} = 0 + 0 + 965,2 + 508 + 1.136,4 + 0$$

$$F_{19} = 2.609,60 \rightarrow 2.610 \text{ pcs}$$

$A_4 \rightarrow A_5$

$$F_{20} = m_1 P_{41} + m_2 P_{42} + m_3 P_{43} + Y_{19} P_{44} + m_5 P_{45} + m_6 P_{46}$$

$$F_{20} = (1.985 \times 0) + (2.199 \times 0) + (2.413 \times 0,4) + (2.664 \times 0,2) + (2.841 \times 0,4) + (3.055 \times 0)$$

$$F_{20} = 0 + 0 + 965,2 + 532,8 + 1.136,4 + 0$$

$$F_{20} = 2.634,40 \rightarrow 2.634 \text{ pcs}$$

$$A_5 \rightarrow A_4$$

$$F_{21} = m_1 P_{51} + m_2 P_{52} + m_3 P_{53} + m_4 P_{54} + Y_{20} P_{55} + m_6 P_{56}$$

$$F_{21} = (1.985 \times 0) + (2.199 \times 0) + (2.413 \times 0) + (2.672 \times 0) + (2.920 \times 0,5) + (3.055 \times 0,5)$$

$$F_{21} = 0 + 0 + 0 + 1.460 + 1.527,5$$

$$F_{21} = 2.987,50 \rightarrow 2.988 \text{ pcs}$$

$$A_4 \rightarrow A_3$$

$$F_{22} = m_1 P_{41} + m_2 P_{42} + m_3 P_{43} + Y_{21} P_{44} + m_5 P_{45} + m_6 P_{46}$$

$$F_{22} = (1.985 \times 0) + (2.199 \times 0) + (2.413 \times 0,4) + (2.710 \times 0,2) + (2.841 \times 0,4) + (3.055 \times 0)$$

$$F_{22} = 0 + 0 + 965,2 + 542 + 1.136,4 + 0$$

$$F_{22} = 2.643,60 \rightarrow 2.644 \text{ pcs}$$

$$A_3 \rightarrow A_4$$

$$F_{23} = m_1 P_{31} + m_2 P_{32} + Y_{22} P_{33} + m_4 P_{34} + m_5 P_{35} + m_6 P_{36}$$

$$F_{23} = (1.985 \times 0) + (2.199 \times 0,6) + (2.317 \times 0,2) + (2.672 \times 0,2) + (2.841 \times 0) + (3.055 \times 0)$$

$$F_{23} = 0 + 1.319,4 + 463,4 + 534,4 + 0 + 0$$

$$F_{23} = 2.317,20 \rightarrow 2.317 \text{ pcs}$$

$$A_4 \rightarrow A_3$$

$$F_{24} = m_1 P_{41} + m_2 P_{42} + m_3 P_{43} + Y_{23} P_{44} + m_5 P_{45} + m_6 P_{46}$$

$$F_{24} = (1.985 \times 0) + (2.199 \times 0) + (2.413 \times 0,4) + (2.604 \times 0,2) + (2.841 \times 0,4) + (3.055 \times 0)$$

$$F_{24} = 0 + 0 + 965,2 + 520,8 + 1.136,4 + 0$$

$$F_{24} = 2.622,40 \rightarrow 2.622 \text{ pcs}$$

Lampiran 6

Perhitungan Peramalan Awal Pada *Paper Bag* Ukuran Sedang

$$A_1 \rightarrow A_1$$

$$F_2 = Y_1 P_{11} + m_2 P_{12} + m_3 P_{13} + m_4 P_{14} + m_5 P_{15} + m_6 P_{16}$$

$$F_2 = (1.809 \times 0,67) + (2.159 \times 0,33) + (2.393 \times 0) + (2.627 \times 0) + (2.861 \times 0) + (3.095 \times 0)$$

$$F_2 = 1.212,03 + 712,47 + 0 + 0 + 0 + 0$$

$$F_2 = 1.924,50 \rightarrow 1.925 \text{ pcs}$$

$$A_1 \rightarrow A_1$$

$$F_3 = Y_2 P_{11} + m_2 P_{12} + m_3 P_{13} + m_4 P_{14} + m_5 P_{15} + m_6 P_{16}$$

$$F_3 = (1.981 \times 0,67) + (2.159 \times 0,33) + (2.393 \times 0) + (2.627 \times 0) + (2.861 \times 0) + (3.095 \times 0)$$

$$F_3 = 1.327,27 + 712,47 + 0 + 0 + 0 + 0$$

$$F_3 = 2.039,74 \rightarrow 2.040 \text{ pcs}$$

$$A_1 \rightarrow A_2$$

$$F_4 = y_3 P_{11} + m_2 P_{12} + m_3 P_{13} + m_4 P_{14} + m_5 P_{15} + m_6 P_{16}$$

$$F_4 = (2.039 \times 0,67) + (2.159 \times 0,33) + (2.393 \times 0) + (2.627 \times 0) + (2.861 \times 0) + (3.095 \times 0)$$

$$F_4 = 1.366,13 + 712,47 + 0 + 0 + 0 + 0$$

$$F_4 = 2.078,60 \rightarrow 2.079 \text{ pcs}$$

$$A_2 \rightarrow A_4$$

$$F_5 = m_1 P_{21} + y_4 P_{22} + m_3 P_{23} + m_4 P_{24} + m_5 P_{25} + m_6 P_{26}$$

$$F_5 = (1.925 \times 0) + (2.259 \times 0,4) + (2.393 \times 0,2) + (2.627 \times 0,4) + (2.861 \times 0) + (3.095 \times 0)$$

$$F_5 = 0 + 903,6 + 478,6 + 1.050,8 + 0 + 0$$

$$F_5 = 2.433 \text{ pcs}$$

$$A_4 \rightarrow A_4$$

$$F_6 = m_1 P_{41} + m_2 P_{42} + m_3 P_{43} + Y_5 P_{44} + m_5 P_{45} + m_6 P_{46}$$

$$F_6 = (1.925 \times 0) + (2.159 \times 0,4) + (2.393 \times 0,2) + (2.733 \times 0,2) + (2.861 \times 0,2) + (3.095 \times 0)$$

$$F_6 = 0 + 863,6 + 478,6 + 546,6 + 572,2 + 0$$

$$F_6 = 2.461 \text{ pcs}$$

$$A_4 \rightarrow A_5$$

$$F_7 = m_1 P_{41} + m_2 P_{42} + m_3 P_{43} + Y_6 P_{44} + m_5 P_{45} + m_6 P_{46}$$

$$F_7 = (1.925 \times 0) + (2.159 \times 0,4) + (2.393 \times 0,2) + (2.654 \times 0,2) + (2.861 \times 0,2) + (3.095 \times 0)$$

$$F_7 = 0 + 863,6 + 478,6 + 530,8 + 572,2 + 0$$

$$F_7 = 2.445,20 \rightarrow 2.445 \text{ pcs}$$

$$A_5 \rightarrow A_4$$

$$F_8 = m_1 P_{51} + m_2 P_{52} + m_3 P_{53} + m_4 P_{54} + Y_7 P_{55} + m_6 P_{56}$$

$$F_8 = (1.925 \times 0) + (2.159 \times 0) + (2.393 \times 0,25) + (2.627 \times 0,25) + (2.810 \times 0) + (3.095 \times 0,5)$$

$$F_8 = 0 + 0 + 598,25 + 656,75 + 0 + 1.547,5$$

$$F_8 = 2.802,50 \rightarrow 2.803 \text{ pcs}$$

$$A_4 \rightarrow A_3$$

$$F_9 = m_1 P_{41} + m_2 P_{42} + m_3 P_{43} + Y_8 P_{44} + m_5 P_{45} + m_6 P_{46}$$

$$F_9 = (1.925 \times 0) + (2.159 \times 0,4) + (2.393 \times 0,2) + (2.544 \times 0,2) + (2.861 \times 0,2) + (3.095 \times 0)$$

$$F_9 = 0 + 863,6 + 478,6 + 508,8 + 572,2 + 0$$

$$F_9 = 2.423,20 \rightarrow 2.423 \text{ pcs}$$

$$A_3 \rightarrow A_4$$

$$F_{10} = m_1 P_{31} + m_2 P_{32} + Y_9 P_{33} + m_4 P_{34} + m_5 P_{35} + m_6 P_{36}$$

$$F_{10} = (1.925 \times 0) + (2.159 \times 0) + (2.232 \times 0) + (2.627 \times 0,67) + (2.861 \times 0,33) + (3.095 \times 0)$$

$$F_{10} = 0 + 0 + 0 + 1.760,09 + 944,13 + 0$$

$$F_{10} = 2.704,22 \rightarrow 2.704 \text{ pcs}$$

$$A_4 \rightarrow A_2$$

$$F_{11} = m_1 P_{41} + m_2 P_{42} + m_3 P_{43} + Y_{10} P_{44} + m_5 P_{45} + m_6 P_{46}$$

$$F_{11} = (1.925 \times 0) + (2.159 \times 0,4) + (2.393 \times 0,2) + (2.704 \times 0,2) + (2.861 \times 0,2) + (3.095 \times 0)$$

$$F_{11} = 0 + 863,6 + 478,6 + 540,8 + 572,2 + 0$$

$$F_{11} = 2.455,2 \rightarrow 2.455 \text{ pcs}$$

$$A_2 \rightarrow A_2$$

$$F_{12} = m_1 P_{21} + Y_{11} P_{22} + m_3 P_{23} + m_4 P_{24} + m_5 P_{25} + m_6 P_{26}$$

$$F_{12} = (1.925 \times 0) + (2.270 \times 0,4) + (2.393 \times 0,2) + (2.627 \times 0,4) + (2.861 \times 0) + (3.095 \times 0)$$

$$F_{12} = 0 + 908 + 478,6 + 1.050,8 + 0 + 0$$

$$F_{12} = 2.437,40 \rightarrow 2.437 \text{ pcs}$$

$$A_2 \rightarrow A_2$$

$$F_{13} = m_1 P_{21} + Y_{12} P_{22} + m_3 P_{23} + m_4 P_{24} + m_5 P_{25} + m_6 P_{26}$$

$$F_{13} = (1.925 \times 0) + (2.186 \times 0,4) + (2.393 \times 0,2) + (2.627 \times 0,4) + (2.861 \times 0) + (3.095 \times 0)$$

$$F_{13} = 0 + 874,4 + 478,6 + 1.050,8 + 0 + 0$$

$$F_{13} = 2.403,80 \rightarrow 2.404 \text{ pcs}$$

$$A_2 \rightarrow A_3$$

$$F_{14} = m_1 P_{21} + Y_{13} P_{22} + m_3 P_{23} + m_4 P_{24} + m_5 P_{25} + m_6 P_{26}$$

$$F_{14} = (1.925 \times 0) + (2.242 \times 0,4) + (2.393 \times 0,2) + (2.627 \times 0,4) + (2.861 \times 0) + (3.095 \times 0)$$

$$F_{14} = 0 + 896,8 + 478,6 + 1.050,8 + 0 + 0$$

$$F_{14} = 2.426,20 \rightarrow 2.426 \text{ pcs}$$

$$A_3 \rightarrow A_5$$

$$F_{15} = m_1 P_{31} + m_2 P_{32} + Y_{14} P_{33} + m_4 P_{34} + m_5 P_{35} + m_6 P_{36}$$

$$F_{15} = (1.925 \times 0) + (2.159 \times 0) + (2.508 \times 0) + (2.627 \times 0,67) + (2.861 \times 0,33) + (3.095 \times 0)$$

$$F_{15} = 0 + 0 + 0 + 1.760,09 + 944,13 + 0$$

$$F_{15} = 2.704,22 \rightarrow 2.704 \text{ pcs}$$

$$A_5 \rightarrow A_6$$

$$F_{16} = m_1 P_{51} + m_2 P_{52} + m_3 P_{53} + m_4 P_{54} + Y_{15} P_{55} + m_6 P_{56}$$

$$F_{16} = (1.925 \times 0) + (2.159 \times 0) + (2.393 \times 0,25) + (2.627 \times 0,25) + (2.933 \times 0) + (3.095 \times 0,5)$$

$$F_{16} = 0 + 0 + 598,25 + 656,75 + 0 + 1.547,5$$

$$F_{16} = 2.802,50 \rightarrow 2.803 \text{ pcs}$$

$$A_6 \rightarrow A_5$$

$$F_{17} = m_1 P_{61} + m_2 P_{62} + m_3 P_{63} + m_4 P_{64} + m_5 P_{65} + Y_{16} P_{66}$$

$$F_{17} = (1.925 \times 0) + (2.159 \times 0) + (2.393 \times 0) + (2.627 \times 0) + (2.861 \times 0,67) + (3.103 \times 0,33)$$

$$F_{17} = 0 + 0 + 0 + 0 + 1.916,87 + 1.023,99$$

$$F_{17} = 2.940,86 \rightarrow 2.941 \text{ pcs}$$

$$A_5 \rightarrow A_6$$

$$F_{18} = m_1 P_{51} + m_2 P_{52} + m_3 P_{53} + m_4 P_{54} + Y_{17} P_{55} + m_6 P_{56}$$

$$F_{18} = (1.925 \times 0) + (2.159 \times 0) + (2.393 \times 0,25) + (2.627 \times 0,25) + (2.938 \times 0) + (3.095 \times 0,5)$$

$$F_{18} = 0 + 0 + 598,25 + 656,75 + 0 + 1.547,5$$

$$F_{18} = 2.802,50 \rightarrow 2.803 \text{ pcs}$$

$$A_6 \rightarrow A_6$$

$$F_{19} = m_1 P_{61} + m_2 P_{62} + m_3 P_{63} + m_4 P_{64} + m_5 P_{65} + Y_{18} P_{66}$$

$$F_{19} = (1.925 \times 0) + (2.159 \times 0) + (2.393 \times 0) + (2.627 \times 0) + (2.861 \times 0,67) + (3.210 \times 0,33)$$

$$F_{19} = 0 + 0 + 0 + 0 + 1.916,87 + 1.059,30$$

$$F_{19} = 2.976,17 \rightarrow 2.976 \text{ pcs}$$

$$A_6 \rightarrow A_5$$

$$F_{20} = m_1 P_{61} + m_2 P_{62} + m_3 P_{63} + m_4 P_{64} + m_5 P_{65} + Y_{19} P_{66}$$

$$F_{20} = (1.925 \times 0) + (2.159 \times 0) + (2.393 \times 0) + (2.627 \times 0) + (2.861 \times 0,67) + (3.093 \times 0,33)$$

$$F_{20} = 0 + 0 + 0 + 0 + 1.916,87 + 1.020,69$$

$$F_{20} = 2.937,56 \rightarrow 2.978 \text{ pcs}$$

$$A_5 \rightarrow A_3$$

$$F_{21} = m_1 P_{51} + m_2 P_{52} + m_3 P_{53} + m_4 P_{54} + Y_{20} P_{55} + m_6 P_{56}$$

$$F_{21} = (1.925 \times 0) + (2.159 \times 0) + (2.393 \times 0,25) + (2.627 \times 0,25) + (2.831 \times 0) + (3.095 \times 0,5)$$

$$F_{21} = 0 + 0 + 598,25 + 656,75 + 0 + 1.547,5$$

$$F_{21} = 2.802,50 \rightarrow 2.803 \text{ pcs}$$

$$A_3 \rightarrow A_4$$

$$F_{22} = m_1 P_{31} + m_2 P_{32} + Y_{21} P_{33} + m_4 P_{34} + m_5 P_{35} + m_6 P_{36}$$

$$F_{22} = (1.925 \times 0) + (2.159 \times 0) + (2.502 \times 0) + (2.627 \times 0,67) + (2.861 \times 0,33) + (3.095 \times 0)$$

$$F_{22} = 0 + 0 + 0 + 1.760,09 + 944,13 + 0$$

$$F_{22} = 2.704,22 \rightarrow 2.704 \text{ pcs}$$

$$A_4 \rightarrow A_2$$

$$F_{23} = m_1 P_{41} + m_2 P_{42} + m_3 P_{43} + Y_{22} P_{44} + m_5 P_{45} + m_6 P_{46}$$

$$F_{23} = (1.925 \times 0) + (2.159 \times 0,4) + (2.393 \times 0,2) + (2.716 \times 0,2) + (2.861 \times 0,2) + (3.095 \times 0)$$

$$F_{23} = 0 + 863,6 + 543,20 + 525,4 + 572,2 + 0$$

$$F_{23} = 2.457,60 \rightarrow 2.458 \text{ pcs}$$

$$A_2 \rightarrow A_4$$

$$F_{24} = m_1 P_{21} + Y_{23} P_{22} + m_3 P_{23} + m_4 P_{24} + m_5 P_{25} + m_6 P_{26}$$

$$F_{24} = (1.925 \times 0) + (2.189 \times 0,4) + (2.393 \times 0,2) + (2.627 \times 0,4) + (2.861 \times 0) + (3.095 \times 0)$$

$$F_{24} = 0 + 875,6 + 478,6 + 1.050,8 + 0 + 0$$

$$F_{24} = 2.405 \text{ pcs}$$

Lampiran 7

Menghitung Nilai Penyesuaian Pada *Paper Bag* Ukuran Besar

	$A_1 \rightarrow A_2$	$= \frac{214}{2}$
$A_2 \rightarrow A_1$	$F_3 = \frac{l}{2}$	$= 107$
$F_2 = -\frac{l}{2}$	$= \frac{214}{2}$	
$= -\frac{214}{2}$	$= 107$	
$= -107$		$A_3 \rightarrow A_2$
	$A_2 \rightarrow A_3$	$F_5 = -\frac{l}{2}$
	$F_4 = \frac{l}{2}$	$= -\frac{214}{2}$
		$= -107$

$$\begin{array}{lll}
A_2 \rightarrow A_3 & A_3 \rightarrow A_2 & = \frac{214}{2} \\
F_6 = \frac{l}{2} & F_{14} = -\frac{l}{2} & = 107 \\
= \frac{214}{2} & = -\frac{214}{2} & A_5 \rightarrow A_4 \\
= 107 & = -107 & F_{21} = -\frac{l}{2} \\
& & = -\frac{214}{2} \\
& & = -107 \\
\\
A_3 \rightarrow A_3 & A_2 \rightarrow A_4 & \\
F_7 = 0 & F_{15} = \frac{l}{2} S & A_4 \rightarrow A_3 \\
& = \frac{214}{2} 2 & F_{22} = -\frac{l}{2} \\
& = 214 & = -\frac{214}{2} \\
& & = -107 \\
\\
A_3 \rightarrow A_2 & A_4 \rightarrow A_5 & \\
F_8 = -\frac{l}{2} & F_{16} = \frac{l}{2} & A_3 \rightarrow A_4 \\
= -\frac{214}{2} & = \frac{214}{2} & F_{23} = \frac{l}{2} \\
= -107 & = 107 & = \frac{214}{2} \\
& & = 107 \\
\\
A_2 \rightarrow A_2 & A_5 \rightarrow A_6 & \\
F_9 = 0 & F_{17} = \frac{l}{2} & A_4 \rightarrow A_3 \\
& = \frac{214}{2} & F_{24} = -\frac{l}{2} \\
& = 107 & = -\frac{214}{2} \\
& & = -107 \\
\\
A_2 \rightarrow A_2 & A_6 \rightarrow A_4 & \\
F_{10} = 0 & F_{18} = -\frac{l}{2} \mathcal{V} & \\
& = -\frac{214}{2} 2 & \\
& = -214 & \\
\\
A_2 \rightarrow A_1 & A_4 \rightarrow A_4 & \\
F_{11} = -\frac{l}{2} & F_{19} = 0 & \\
= -\frac{214}{2} & & \\
= -107 & & \\
\\
A_1 \rightarrow A_2 & A_4 \rightarrow A_5 & \\
F_{12} = \frac{l}{2} & F_{20} = \frac{l}{2} & \\
= \frac{214}{2} & & \\
= 107 & & \\
\\
A_2 \rightarrow A_3 & & \\
F_{13} = \frac{l}{2} & & \\
= \frac{214}{2} & & \\
= 107 & &
\end{array}$$

Lampiran 8
Menghitung Nilai Penyesuaian Pada *Paper Bag* Ukuran Sedang

$A_1 \rightarrow A_1$	$= -117$	$= 117$
$F_2 = 0$		
$A_1 \rightarrow A_1$	$A_3 \rightarrow A_4$	$A_6 \rightarrow A_5$
$F_3 = 0$	$F_{10} = \frac{l}{2}$	$F_{17} = -\frac{l}{2}$
	$= \frac{234}{2}$	$= -\frac{234}{2}$
$A_1 \rightarrow A_2$	$= 117$	$= -117$
$F_4 = \frac{l}{2}$		
$= \frac{234}{2}$	$A_4 \rightarrow A_2$	$A_5 \rightarrow A_6$
$= 117$	$F_{11} = -\frac{l}{2}V$	$F_{18} = \frac{l}{2}$
	$= -\frac{234}{2}2$	$= \frac{234}{2}$
$A_2 \rightarrow A_4$	$= -234$	$= 117$
$F_5 = \frac{l}{2}S$		
$= \frac{234}{2}S$	$A_2 \rightarrow A_2$	$A_6 \rightarrow A_6$
$= 234$	$F_{12} = 0$	$F_{19} = 0$
		$A_6 \rightarrow A_5$
$A_4 \rightarrow A_4$	$A_2 \rightarrow A_2$	$F_{20} = -\frac{l}{2}$
$F_6 = 0$	$F_{13} = 0$	$= -\frac{234}{2}$
		$= -117$
$A_4 \rightarrow A_5$	$A_2 \rightarrow A_3$	$A_5 \rightarrow A_3$
$F_7 = \frac{l}{2}$	$F_{14} = \frac{l}{2}$	$F_{21} = -\frac{l}{2}V$
$= \frac{234}{2}$	$= \frac{234}{2}$	$= -\frac{234}{2}2$
$= 117$	$= 117$	$= -234$
	$A_3 \rightarrow A_5$	
$A_5 \rightarrow A_4$	$F_{15} = \frac{l}{2}S$	$A_3 \rightarrow A_4$
$F_8 = -\frac{l}{2}$	$= \frac{234}{2}2$	$F_{22} = \frac{l}{2}$
$= -\frac{234}{2}$	$= 234$	$= \frac{234}{2}$
$= -117$		$= 117$
	$A_5 \rightarrow A_6$	
$A_4 \rightarrow A_3$	$F_{16} = \frac{l}{2}$	$A_4 \rightarrow A_2$
$F_9 = -\frac{l}{2}$	$= \frac{234}{2}$	$F_{23} = -\frac{l}{2}V$
$= -\frac{234}{2}$		

$$= -\frac{234}{2}2$$

$$= -234$$

$$A_2 \rightarrow A_4$$

$$F_{24} = \frac{l}{2}S$$

$$= \frac{234}{2}2$$

$$= 234$$

Lampiran 9

Menghitung Peramalan Akhir Pada *Paper Bag* Ukuran Besar

$F'_2 = F_2 + D_{t1}$	$= 2.233$	$F'_{15} = F_{15} + D_{t1}$
$= 2.300 - 107$		$= 2.301 + 214$
$= 2.193$	$F'_9 = F_9 + D_{t1}$	$= 2.515$
	$= 2.298 + 0$	
$F'_3 = F_3 + D_{t1}$	$= 2.298$	$F'_{16} = F_{16} + D_{t1}$
$= 2.199 + 107$		$= 2.618 + 107$
$= 2.306$	$F'_{10} = F_{10} + D_{t1}$	$= 2.725$
	$= 2.306 + 0$	
$F'_4 = F_4 + D_{t1}$	$= 2.306$	$F'_{17} = F_{17} + D_{t1}$
$= 2336 + 107$		$= 2.930 + 107$
$= 2.443$	$F'_{11} = F_{11} + D_{t1}$	$= 3.037$
	$= 2.311 - 107$	
$F'_5 = F_5 + D_{t1}$	$= 2.204$	$F'_{18} = F_{18} + D_{t1}$
$= 2.321 - 107$		$= 2.672 - 214$
$= 2.214$	$F'_{12} = F_{12} + D_{t1}$	$= 2.458$
	$= 2.199 + 107$	
$F'_6 = F_6 + D_{t1}$	$= 2.306$	$F'_{19} = F_{19} + D_{t1}$
$= 2.352 + 107$		$= 2.610 + 0$
$= 2.459$	$F'_{13} = F_{13} + D_{t1}$	$= 2.610$
	$= 2.332 + 107$	
$F'_7 = F_7 + D_{t1}$	$= 2.439$	$F'_{20} = F_{20} + D_{t1}$
$= 2.327 + 0$		$= 2.634 + 107$
$= 2.327$	$F'_{14} = F_{14} + D_{t1}$	$= 2.741$
	$= 2.337 - 107$	
$F'_8 = F_8 + D_{t1}$	$= 2.230$	
$= 2.340 - 107$		

$$\begin{aligned}
F'_{21} &= F_{21} + D_{t1} \\
&= 2.988 - 107 \\
&= 2.881
\end{aligned}$$

$$\begin{aligned}
F'_{23} &= F_{23} + D_{t1} \\
&= 2.317 + 107 \\
&= 2.424
\end{aligned}$$

$$\begin{aligned}
F'_{22} &= F_{22} + D_{t1} \\
&= 2.644 - 107 \\
&= 2.537
\end{aligned}$$

$$\begin{aligned}
F'_{24} &= F_{24} + D_{t1} \\
&= 2.622 - 107 \\
&= 2.515
\end{aligned}$$

Lampiran 10

Menghitung Peramalan Akhir Pada *Paper Bag* Ukuran Sedang

$$\begin{aligned}
F'_2 &= F_2 + D_{t1} \\
&= 1.925 + 0 \\
&= 1.925
\end{aligned}$$

$$= 2.306$$

$$\begin{aligned}
&= 2.941 - 117 \\
&= 2.824
\end{aligned}$$

$$\begin{aligned}
F'_3 &= F_3 + D_{t1} \\
&= 2.040 + 0 \\
&= 2.040
\end{aligned}$$

$$\begin{aligned}
F'_{10} &= F_{10} + D_{t1} \\
&= 2.704 + 117 \\
&= 2.821
\end{aligned}$$

$$\begin{aligned}
F'_{18} &= F_{18} + D_{t1} \\
&= 2.803 + 117 \\
&= 2.920
\end{aligned}$$

$$\begin{aligned}
F'_4 &= F_4 + D_{t1} \\
&= 2.079 + 117 \\
&= 2.196
\end{aligned}$$

$$\begin{aligned}
F'_{11} &= F_{11} + D_{t1} \\
&= 2.455 - 234 \\
&= 2.221
\end{aligned}$$

$$\begin{aligned}
F'_{19} &= F_{19} + D_{t1} \\
&= 2.976 + 0 \\
&= 2.976
\end{aligned}$$

$$\begin{aligned}
F'_5 &= F_5 + D_{t1} \\
&= 2.433 + 234 \\
&= 2.667
\end{aligned}$$

$$\begin{aligned}
F'_{12} &= F_{12} + D_{t1} \\
&= 2.437 + 0 \\
&= 2.437
\end{aligned}$$

$$\begin{aligned}
F'_{20} &= F_{20} + D_{t1} \\
&= 2.938 - 117 \\
&= 2.821
\end{aligned}$$

$$\begin{aligned}
F'_6 &= F_6 + D_{t1} \\
&= 2.461 + 0 \\
&= 2.461
\end{aligned}$$

$$\begin{aligned}
F'_{13} &= F_{13} + D_{t1} \\
&= 2.404 + 0 \\
&= 2.404
\end{aligned}$$

$$\begin{aligned}
F'_{21} &= F_{21} + D_{t1} \\
&= 2.803 - 234 \\
&= 2.569
\end{aligned}$$

$$\begin{aligned}
F'_7 &= F_7 + D_{t1} \\
&= 2.445 + 117 \\
&= 2.562
\end{aligned}$$

$$\begin{aligned}
F'_{14} &= F_{14} + D_{t1} \\
&= 2.426 + 117 \\
&= 2.543
\end{aligned}$$

$$\begin{aligned}
F'_{22} &= F_{22} + D_{t1} \\
&= 2.704 + 117 \\
&= 2.821
\end{aligned}$$

$$\begin{aligned}
F'_8 &= F_8 + D_{t1} \\
&= 2.803 - 117 \\
&= 2.686
\end{aligned}$$

$$\begin{aligned}
F'_{15} &= F_{15} + D_{t1} \\
&= 2.704 + 234 \\
&= 2.938
\end{aligned}$$

$$\begin{aligned}
F'_{23} &= F_{23} + D_{t1} \\
&= 2.458 - 234 \\
&= 2.224
\end{aligned}$$

$$\begin{aligned}
F'_9 &= F_9 + D_{t1} \\
&= 2.423 - 117
\end{aligned}$$

$$\begin{aligned}
F'_{16} &= F_{16} + D_{t1} \\
&= 2.803 + 117 \\
&= 2.920
\end{aligned}$$

$$\begin{aligned}
F'_{24} &= F_{24} + D_{t1} \\
&= 2.405 + 234 \\
&= 2.639
\end{aligned}$$

$$F'_{17} = F_{17} + D_{t1}$$

Lampiran 11

Menghitung Mean Square Error (MSE) Pada Paper Bag

<i>t</i>	Bulan / Tahun	Besar (Data Aktual)	Peramalan Akhir (F'_t)	$MSE \sum \left(\frac{A_t - F_t}{n} \right)^2$	Sedang (Data Aktual)	Peramalan Akhir (F'_t)	$MSE \sum \left(\frac{A_t - F_t}{n} \right)^2$
1	Jan-18	2.157	0	0	1.809	0	0
2	Feb-18	2.082	2193	21,31361111	1.981	1925	5,542100694
3	Mar-18	2.300	2306	0,0625	2.039	2040	0,000950694
4	Apr-18	2.334	2443	20,45677517	2.259	2196	6,978402778
5	Mei-18	2.107	2214	19,72840278	2.733	2667	7,5625
6	Jun-18	2.367	2459	14,79043403	2.654	2461	64,66840278
7	Jul-18	2.430	2327	18,34694444	2.810	2562	106,605625
8	Agust-18	2.150	2233	11,9025	2.544	2686	34,76085069
9	Sep-18	2.180	2298	24,19410156	2.232	2306	9,558402778
10	Okt-18	2.200	2306	19,34167101	2.704	2821	23,85508403
11	Nop-18	2.058	2204	36,77917101	2.270	2221	4,134444444
12	Des-18	2.284	2306	0,840277778	2.186	2437	109,725625
13	Jan-19	2.415	2439	0,962851563	2.242	2404	45,45006944

t	Bulan / Tahun	Besar (Data Aktual)	Peramalan Akhir (F'_t)	$MSE \sum \left(\frac{A_t - F_t}{n} \right)^2$	Sedang (Data Aktual)	Peramalan Akhir (F'_t)	$MSE \sum \left(\frac{A_t - F_t}{n} \right)^2$
14	Feb-19	2.160	2230	8,458402778	2.508	2543	2,151111111
15	Mar-19	2.580	2515	7,436983507	2.933	2938	0,04730625
16	Apr-19	2.805	2725	11,2225	3.103	2920	58,140625
17	Mei-19	3.159	3037	25,84027778	2.938	2824	22,61795069
18	Jun-19	2.540	2458	11,67361111	3.210	2920	146,0069444
19	Jul-19	2.664	2610	5,137777778	3.093	2976	23,69661267
20	Agust-19	2.920	2741	55,37840278	2.831	2821	0,189225
21	Sep-19	2.710	2881	50,46918403	2.502	2569	7,677517361
22	Okt-19	2.317	2537	83,7225	2.716	2821	19,22091736
23	Nop-19	2.604	2424	56,12506944	2.189	2224	2,078402778
24	Des-19	2.510	2515	0,050625	2.710	2639	8,751736111
				504,2345747			709,42

Lampiran 12

Menghitung *Mean Absolute Deviation* (MAD) Pada *Paper Bag*

<i>t</i>	Bulan / Tahun	Besar (Data Aktual)	Peramalan Akhir (F'_t)	MAD = $\sum \left \frac{A_t - F_t}{n} \right $	Sedang (Data Aktual)	Peramalan Akhir (F'_t)	MAD = $\sum \left \frac{A_t - F_t}{n} \right $
1	Jan-18	2.157	0	0	1.809	0	0
2	Feb-18	2.082	2193	4,616666667	1.981	1925	2,333333333
3	Mar-18	2.300	2306	0,25	2.039	2040	0,041666667
4	Apr-18	2.334	2443	4,522916667	2.259	2196	2,641666667
5	Mei-18	2.107	2214	4,441666667	2.733	2667	2,75
6	Jun-18	2.367	2459	3,845833333	2.654	2461	8,041666667
7	Jul-18	2.430	2327	4,283333333	2.810	2562	10,325
8	Agust-18	2.150	2233	3,45	2.544	2686	5,895833333
9	Sep-18	2.180	2298	4,91875	2.232	2306	3,091666667
10	Okt-18	2.200	2306	4,397916667	2.704	2821	4,884166667
11	Nop-18	2.058	2204	6,064583333	2.270	2221	2,033333333
12	Des-18	2.284	2306	0,916666667	2.186	2437	10,475
13	Jan-19	2.415	2439	0,98125	2.242	2404	6,741666667

t	Bulan / Tahun	Besar (Data Aktual)	Peramalan Akhir (F'_t)	MAD = $\sum \left \frac{A_t - F_t}{n} \right $	Sedang (Data Aktual)	Peramalan Akhir (F'_t)	MAD = $\sum \left \frac{A_t - F_t}{n} \right $
14	Feb-19	2.160	2230	2,908333333	2.508	2543	1,466666667
15	Mar-19	2.580	2515	2,727083333	2.933	2938	0,2175
16	Apr-19	2.805	2725	3,35	3.103	2920	7,625
17	Mei-19	3.159	3037	5,083333333	2.938	2824	4,755833333
18	Jun-19	2.540	2458	3,416666667	3.210	2920	12,08333333
19	Jul-19	2.664	2610	2,266666667	3.093	2976	4,867916667
20	Agust-19	2.920	2741	7,441666667	2.831	2821	0,435
21	Sep-19	2.710	2881	7,104166667	2.502	2569	2,770833333
22	Okt-19	2.317	2537	9,15	2.716	2821	4,384166667
23	Nop-19	2.604	2424	7,491666667	2.189	2224	1,441666667
24	Des-19	2.510	2515	0,225	2.710	2639	2,958333333
				93,85416667			102,26

Lampiran 13

Menghitung Mean Absolute Percentage Error (MAPE) Pada Paper Bag

t	Bulan / Tahun	Besar (Data Aktual)	Peramalan Akhir (F'_t)	MAPE = $\left(\frac{100}{n}\right) \sum \left A_t - \frac{F_t}{A_t}\right $	Sedang (Data Aktual)	Peramalan Akhir (F'_t)	MAPE = $\left(\frac{100}{n}\right) \sum \left A_t - \frac{F_t}{A_t}\right $
1	Jan-18	2.157	0	0	1.809	0	0
2	Feb-18	2.082	2193	0,05321806	1.981	1925	0,028268551
3	Mar-18	2.300	2306	0,002608696	2.039	2040	0,000490436
4	Apr-18	2.334	2443	0,046508141	2.259	2196	0,028065516
5	Mei-18	2.107	2214	0,050593261	2.733	2667	0,024149286
6	Jun-18	2.367	2459	0,038994508	2.654	2461	0,072720422
7	Jul-18	2.430	2327	0,042304527	2.810	2562	0,088185053
8	Agust-18	2.150	2233	0,038511628	2.544	2686	0,055621069
9	Sep-18	2.180	2298	0,054151376	2.232	2306	0,033243728
10	Okt-18	2.200	2306	0,047977273	2.704	2821	0,043350592
11	Nop-18	2.058	2204	0,070724004	2.270	2221	0,021497797
12	Des-18	2.284	2306	0,009632224	2.186	2437	0,115004575
13	Jan-19	2.415	2439	0,009751553	2.242	2404	0,072167707

t	Bulan / Tahun	Besar (Data Aktual)	Peramalan Akhir (F'_t)	MAPE = $\left(\frac{100}{n}\right) \sum \left A_t - \frac{F_t}{A_t}\right $	Sedang (Data Aktual)	Peramalan Akhir (F'_t)	MAPE = $\left(\frac{100}{n}\right) \sum \left A_t - \frac{F_t}{A_t}\right $
14	Feb-19	2.160	2230	0,032314815	2.508	2543	0,014035088
15	Mar-19	2.580	2515	0,025368217	2.933	2938	0,001779748
16	Apr-19	2.805	2725	0,028663102	3.103	2920	0,058975185
17	Mei-19	3.159	3037	0,038619816	2.938	2824	0,038849558
18	Jun-19	2.540	2458	0,032283465	3.210	2920	0,090342679
19	Jul-19	2.664	2610	0,02042042	3.093	2976	0,037772389
20	Agust-19	2.920	2741	0,061164384	2.831	2821	0,003687743
21	Sep-19	2.710	2881	0,062915129	2.502	2569	0,026578737
22	Okt-19	2.317	2537	0,09477773	2.716	2821	0,038740795
23	Nop-19	2.604	2424	0,069047619	2.189	2224	0,015806304
24	Des-19	2.510	2515	0,002151394	2.710	2639	0,026199262
				$\frac{0,932701339}{24} \times 100$			$\frac{0,94}{24} \times 100$
				3,886255581			3,90

Lampiran 14
Menghitung Hasil Peramalan Pada *Paper Bag* Ukuran Besar

Bulan / Tahun	t	Data Fuzzy	FLRG (A _i →A _j)	Peramalan Awal (F _t)	Penyesuaian	Peramalan Akhir (F' _t)	t-(t-1)	Data Baru F' _t + (t-(t-1))
Jan-20	2.515	A3	A ₃ →A3	2.356	0	2.356	5	2.361
Feb-20	2.361	A3	A ₃ →A3	2.357	0	2.357	154	2.511
Mar-20	2.511	A3	A ₃ →A3	2.326	0	2.326	150	2.476
Apr-20	2.476	A3	A ₃ →A3	2.356	0	2.356	35	2.391
Mei-20	2.391	A3	A ₃ →A3	2.349	0	2.349	85	2.434
Jun-20	2.434	A3	A ₃ →∅	2.332	0	2.332	43	2.375

Lampiran 15
Menghitung Hasil Peramalan Pada *Paper Bag* Ukuran Sedang

Bulan / Tahun	t	Data Fuzzy	FLRG (A _i →A _j)	Peramalan Awal (F _t)	Penyesuaian	Peramalan Akhir (F' _t)	t-(t-1)	Data Baru F' _t + (t-(t-1))
Jan-20	2.639	A4	A ₄ →A4	2.456	0	2.456	71	2.527
Feb-20	2.527	A4	A ₄ →A4	2.442	0	2.442	112	2.554
Mar-20	2.554	A4	A ₄ →A3	2.420	0	2.420	27	2.447
Apr-20	2.447	A3	A ₃ →A3	2.425	-117	2.308	107	2.415
Mei-20	2.415	A3	A ₃ →A4	2.704	0	2.704	32	2.736
Jun-20	2.736	A4	A ₃ →∅	2.704	117	2.821	321	3.142

UNIVERSITAS PGRI ADI BUANA SURABAYA
FAKULTAS TEKNOLOGI INDUSTRI

Program Studi : Teknik Industri – Teknik Elektro
 KAMPUS 1: Jl. Dukuh Muncung XI/4 ☎ (031) 8281141 Surabaya 60204

BERITA ACARA BIMBINGAN TUGAS AKHIR

Nama	: Sahrina Alfimta	Foto 3x4		
NIM	: 16370065			
Program Studi	: Teknik Industri			
Pembimbing	: Prihono, S.T., M.T			
Periode Bimbingan	: Gasal (Janap*) Tahun 2019 / 2020			
Judul Tugas Akhir	Model Pemenuhan Permintaan Paper Bag Menggunakan Metode Fuzzy Tipe Sertir Markov Chain Pada UKM Anurvat Jaya			
KEGIATAN KONSULTASI / BIMBINGAN				
No	Tanggal	Materi pembimbingan	Keterangan	Paraf
1	07 Mei 2020	Format Penulisan		
2	20 Mei 2020	Analisa Data BAB I-3		
3	28 Juni 2020	Analisa Data BAB IV		
4	12 Juni 2020	BAB V		
5	15 Juni 2020	Kesimpulan BAB V		
6	14 Juni 2020	BAB I - V		
7	17 Juni 2020	Format Penulisan BAB I - V		
8	20 Juni 2020	Shapet BAB I - V siap diujikan	KCE	
Dinyatakan selesai tanggal 22 Juni 2020				

Surabaya, 22 Juni 2020

Mengetahui,
 Ketua Program Studi,

Pembimbing,

Mahasiswa,



BERITA ACARA UJIAN TUGAS AKHIR

Pada

Hari, tanggal : Selasa, 07 Juli 2023
Jam : Pukul 08.00 – selesai
Tempat : Ruang 5

Telah dilaksanakan Ujian Tugas Akhir:

Nama Mahasiswa : Sabina Alfianika
Program Studi : Teknik Industri
Judul Tugas Akhir : Model Pemetaan Perumahan Pagar Karang menggunakan Metode Pictorial Map serta metode lain
Bidang Keahlian :
Tanda Tangan :

Saran-saran perbaikan :

- Untuk Boni model (gambar / planologi)
- Abstrak (tujuan metode Boni last)
- Kesimpulan
- Output pemetaan untuk peta

Tim Penguji

Nama

(Tanda tangan)

1. Titina Utami, ST., MT
2. Al Wulahan Al M., ST., MT

***)** Jangka waktu perbaikan Tugas Akhir dua minggu setelah ujian.

Apabila waktu tersebut tidak dipenuhi, maka nilai Ujian Tugas Akhir dianggap batal dan mahasiswa yang bersangkutan diwajibkan mengulang Ujian lisan.



BERITA ACARA UJIAN TUGAS AKHIR

Pada

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Bidang Keahlian :
Tanda Tangan :

Saran-saran perbaikan :

- Untuk Boni model (gambar / planologi)
- Abstrak (tujuan metode Boni last)
- Kesimpulan
- Output perumitan untuk a.p.s.

Tim Penguji

Nama

(Tanda tangan)

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