BAB V

PENUTUP

V.1. Kesimpulan

Dari hasil penelitian dan analisis dengan menggunakan 7 metode model deterministik yaitu : *Lot For Lot Ordering, Periodic Order Quantity, Wagner-Whitin Algorithm, Silver-Meal Algorithm, Least Unit Cost, Part-Period Algorithm,* dan *Incremental Part-Period Algorithm* yang telah dilakukan penulis dalam bab-bab sebelumnya maka dapat diambil beberapa kesimpulan sebagai berikut:

1. Dari ketujuh metode pengendalian persediaan bahan baku model deterministik, metode *Periodic Order Quantity, Wagner-Whitin Algorithm, Silver-Meal Algorithm, Least Unit Cost,* dan *Part-Period Algorithm* menghasilkan Total Inventory Cost (TIC) yang sama yakni sebesar Rp. 19.066.918,22 dengan jumlah pemesanan sebanyak 6 kali. Metode *Lot For Lot Ordering* menghasilkan Total Inventory Cost (TIC) sebesar Rp. 27.720.000 dengan jumlah pemesanan sebanyak 12 kali. Metode *Incremental Part-Period Algorithm* menghasilkan Total Inventory Cost (TIC) sebesar Rp. 16.203.312,45 dengan jumlah pemesanan sebanyak 4 kali.
2. Dari hasil analisis dengan menggunakan ketujuh metode diatas dapat diketahui bahwa metode *Incremental Part-Period Algorithm* adalah metode yang dapat menghasilkan Total Inventory Cost (TIC) yang paling minimum yakni sebesar Rp. 16.203.312,45. Sedangkan metode *Lot For Lot*

Ordering adalah metode yang menghasilkan Total Inventory Cost (TIC) yang paling maksimum yakni sebesar Rp. 27.720.000.

3. Perusahaan selama ini belum melakukan pengendalian persediaan bahan baku secara optimal dan efisien. Dikatakan belum optimal dan efisien karena kebijakan metode pemesanan bahan baku yang dilakukan oleh perusahaan sama seperti metode *Lot For Lot Ordering* yakni melakukan satu kali pemesanan bahan baku dalam setiap periode kebutuhan bahan baku. Padahal, dari hasil analisis dengan menggunakan 7 metode model deterministik pada bab-bab sebelumnya, diketahui bahwa metode *Lot For Lot Ordering* adalah metode yang memberikan TIC paling maksimum. Ini mengakibatkan biaya pesan dan biaya simpan PT. Kresna Jaya Mekar tinggi.
4. Tujuan dari penelitian skripsi ini adalah menentukan metode persediaan bahan baku yang optimal yang dapat memberikan Total Inventory Cost yang minimum pada perusahaan karung plastik PT. Kresna Jaya Mekar dengan menggunakan 7 metode model deterministik. Berdasarkan hasil analisis data yang dilakukan dalam bab-bab sebelumnya diketahui bahwa metode *Incremental Part-Period Algorithm* adalah metode yang paling dapat menghasilkan TIC yang minimum, oleh karena itu maka PT. Kresna Jaya Mekar dapat memilih dan memakai metode *Incremental Part-Period Algorithm* untuk melakukan pengendalian persediaan bahan bakunya.
5. Penerapan metode yang di usulkan penulis pada PT. Kresna Jaya Mekar ternyata diketahui dapat menghemat biaya persediaan perusahaan yang

selama ini sebesar Rp. 27.720.000. Adapun penghematan yang dapat diperoleh perusahaan dengan melakukan penerapan metode yang diusulkan penulis (lihat tabel 4.5):

a. Metode *Periodic Order Quantity*: Rp. 8.653.081,78.
b. Metode *Wagner-Whitin Algorithm*: Rp. 8.653.081,78.
c. Metode *Silver-Meal Algorithm*: Rp. 8.653.081,78.
d. Metode *Least Unit Cost*: Rp. 8.653.081,78.
e. Metode *Part-Period Algorithm*: Rp. 8.653.081,78.
f. Metode *Incremental Part-Period Algorithm*: Rp. 11.516.687,55.

V.2. Saran

Dari hasil penelitian dan analisis serta kesimpulan yang telah dipaparkan diatas, maka penulis mencoba memberikan saran kepada PT. Kresna Jaya Mekar yang mungkin dapat dijadikan sebagai gambaran dan bahan pertimbangan untuk melakukan pengendalian persediaan bahan baku yang optimal dimasa yang akan datang yang nantinya dapat memberikan TIC yang minimum bagi perusahaan dan dapat meningkatkan keuntungan perusahaan.

Berdasarkan penelitian yang dilakukan penulis pada perusahaan karung plastik PT. Kresna Jaya Mekar dengan menggunakan analisis data tahun 2006 maka dapat diketahui bahwa metode *Incremental Part-Period Algorithm* adalah metode yang dapat menghasilkan TIC yang minimum dan penghematan biaya persediaan yang maksimum. Oleh karena itu, perusahaan dapat menerapkan metode ini untuk melakukan pengendalian persediaan bahan baku. Caranya, perusahaan dapat

melakukan frekuensi pemesanan bahan baku sebanyak 4 kali pesan dalam satu tahun dengan jumlah pesanan ± 55.000 kg dalam setiap kali pesan. Dibandingkan dengan kebijakan perusahaan sebelumnya, metode *Incremental Part-Period Algorithm* ini dapat menghemat biaya pesan. Selain itu mengingat kapasitas gudang yang cukup besar yang mampu untuk menyimpan bahan baku dalam jumlah banyak, maka metode *Incremental Part-Period Algorithm* ini bisa diterapkan dalam perusahaan karung plastik PT. Kresna Jaya Mekar.

DAFTAR PUSTAKA

Baroto, Teguh. 2004, *Perencanaan dan Pengendalian Produksi*, Jakarta, Ghalia Indonesia.

Chase, Richard B., Jacobs, F. Robert. & Aquilano, Nicholas J., 2006, *Operation Management for Competitive Advantage: with global cases*, 11th ed., New York, Mc.Graw-Hill.

Handoko, T. Hani. 2000, *Dasar-dasar Manajemen Produksi dan Operasi*, Yogyakarta, BPFE.

Heizer, Jay, & Render, Barry, 2006, *Operation Management*, 8th ed., New Jersey, Prentice-Hall, Inc.

Herjanto, Eddy. 2007, *Manajemen Operasi*, Edisi Ketiga., Jakarta, PT. Gramedia Widiasarana Indonesia.

Kuncoro, Mudradaj. 2003, *Metode Riset untuk Bisnis dan Ekonomi*, Jakarta, Erlangga.

Russell, Roberta S., & Bernard, W. Taylor III., 2003, *Operation Management*, 4th ed., New Jersey, Prentice-Hall. Inc.

Schroeder, Roger G. 2004, *Operation Management: Contemporary Consepts and Cases*, 2nd ed., New York, Mc. Graw-Hill.

Stevenson, William J. 2005, *Operation Management*, 8th ed., New York, Mc. Graw-Hill / Irwin.

Sumayang, Lalu. 2003, *Dasar-dasar Manajemen Produksi dan Operasi*, Jakarta, Salemba Empat.

Tampubolon, Manahan P. 2004, *Manajemen Operasional*, Jakarta,Ghalia Indonesia.

Tersine, Richard J. 1994, *Principles of Inventory and Material Management*, 4th ed., New Jersey, Prentice-Hall, Inc.

Yamit, Zulian. 2005, *Manajemen Persediaan*, Yogyakarta, Ekonisia Fakultas Ekonomi UII.

PT. Kresna Jaya Mekar

Jl. Tegal Timur no.2 Kutoarjo-Purworejo Jawa Tengah telp/fax 0275-641103

Yang Bertanda tangan dibawah ini, Pimpinan PT. Kresna Jaya Mekar menyatakan bahwa :

Nama : Gabriela Tri Widiastuti Sutanto

No.Mhs : 0303 14194/EM

Adalah mahsiswa Universitas Atma Jaya Yogyakarta yang telah melakukan riset penelitian di. PT. Kresna Jaya Mekar mulai tanggal 22 Febuary 2007 – 30 April 2007.

Demikian surat riset ini dibuat untuk dapat digunakan sebagaimana mestinya.

Kutoarjo, 14 May 2007
Hormat Kami,

KUTOARJO

Andy Sugijanto

DAFTAR LAMPIRAN

Lampiran 1 : Tabel Perhitungan dan Jadwal Pemesanan Bahan Baku menggunakan Metode Lot For Lot Ordering

Periode	1	2	3	4	5	6
Demand	18.115,235	17.869,975	17.790,5	20.633,75	20.464,005	18.275
Pesan	18.115,235	17.869,975	17.790,5	20.633,75	20.464,005	18.275
Biaya Pesan	2.310.000	2.310.000	2.310.000	2.310.000	2.310.000	2.310.000
Biaya Simpan	-	-	-	-	-	-
TC	2.310.000	2.310.000	2.310.000	2.310.000	2.310.000	2.310.000
Akumulatif TC	2.310.000	4.620.000	6.930.000	9.240.000	11.550.000	13.860.000

Periode	7	8	9	10	11	12
Demand	18.424,09	19.550,595	18.615	17.142,97	18.654,78	18.432,25
Pesan	18.424,09	19.550,595	18.615	17.142,97	18.654,78	18.432,25
Biaya Pesan	2.310.000	2.310.000	2.310.000	2.310.000	2.310.000	2.310.000
Biaya Simpan	-	-	-	-	-	-
TC	2.310.000	2.310.000	2.310.000	2.310.000	2.310.000	2.310.000
Akumulatif TC	16.170.000	18.480.000	20.790.000	23.100.000	25.410.000	27.720.000

Lampiran 2 : Tabel Perhitungan dan Jadwal Pemesanan Bahan Baku menggunakan Metode Periodic Order Quantity

Periode	1	2	3	4	5	6
Demand	18.115,235	17.869,975	17.790,5	20.633,75	20.464,005	18.275
Pesan	36.025,21		38.424,25		38.739,005	
Biaya Pesan	2.310.000		2.310.000		2.310.000	
Biaya Simpan	831.489,93		960.088,38		850.335,75	
TC	3.141.489,93		3.270.088,38		3.160.335,75	
Akumulatif TC	3.141.489,93	3.141.489,93	6.411.578,31	6.411.578,31	9.571.914,06	9.571.914,06

Periode	7	8	9	10	11	12
Demand	18.424,09	19.550,595	18.615	17.142,97	18.654,78	18.432,25
Pesan	37.974,685		35.757,97		37.087,03	
Biaya Pesan	2.310.000		2.310.000		2.310.000	
Biaya Simpan	909.689,18		797.662,39		857.652,59	
TC	3.219.689,18		3.107.662,39		3.167.652,59	
Akumulatif TC	12.791.603,24	12.791.603,24	15.899.265,63	15.899.265,63	19.066.918,22	19.066.918,22

Lampiran 3: Perhitungan menggunakan Metode Wagner_Within Algorithm

$$Z_{ce} = C + hP \sum_{i=c}^{e} (Q_{ce} - Q_{ci})$$

$Z_{1.1}$ = 2.310.000 + 46,53 [(18,155,235-18.155,235)] = 2.310.000.

$Z_{1.2}$ = 2.310.000 + 46,53 [(36.025,21-18.155,235) + (36.025,21-36.025,21)]
= 3.141.489,921.

$Z_{1.3}$ = 2.310.000 + 46,53 [(53.815.71-18.155,235) + (53.815,71-36.025,21)
+ (53.81,71-53.815,71)] = 4.797.073,851.

$Z_{1.4}$ = 2.310.000 + 46,53 [(74.449,46-18.155,235) + (74.449,46-36.025,21)
+(74.449,46-53.815,71) + (74.449,46-74.449,46)]
= 7.675.245,177.

$Z_{1.5}$ = 2.310.000 + 46,53 [(94.913,465-18.155,235) + (94.913,465-36.025,21)
+ (94.913,465-53.815.71) + (94.913,465-74.449,46)
+ (94.913,465-94.913,465)] = 11.486.099,64.

$Z_{1.6}$ = 2.310.000 + 46,53 [(113.188,465-18.155,235) + (113.188,465-36.025,21)
+ (113.188,465-53.815.71) + (113.188,465-74.449,46) +
(113.188,465-94.913,465) + (113.188,465-
113.188,465)] = 15.737.778,39.

$Z_{1.7}$ = 2.310.000 + 46,53 [(131.162,555-18.155,235) + (131.162,555-36.025,21) +
(131.162,555-53.815.71) + (131.162,555-74.449,46) +
(131.162,555-94.913,465) + (131.162,555-113.188,465)
+ (131.162,555-131.162,555)] = 20.881.415,83.

$Z_{1.8}$ = 2.310.000 + 46,53 [(151.163,15-18.155,235) + (151.163,15-36.025,21) + (151.163,15-53.815.71)+(151.163,15-74.449,46) + (151.163,15-94.913,465) + (151.163,15-113.188,465) + (151.163,15-131.162,555) + (151.163,15-151.163,15)] = 27.249.240,14.

$Z_{1.9}$ = 2.310.000 + 46,53 [(169.778,15-18.155,235) + (169.778,15-36.025,21) + (169.778,15-53.815.71) + (169.778,15-74.449,46) + (169.778,15-94.913,465) + (169.778,15-113.188,465) + (169.778,15-131.162,555) + (169.778,15-151.163,15) + (169.778,15-169.778,15)] = 34.199.426,24.

$Z_{1.10}$ = 2.310.000 + 46,53 [(186.921,12-18.155,235) + (186.921,1236.025,21) + (186.921,12-53.815.71) + (186.921,12-74.449,46) + (186.921,12-94.913,465) + (186.921,12-113.188,465) + (186.921,12-131.162,555) + (186.921,12-151.163,15) + (186.921,12-169.778,15) + (186.921,12-186.921,12)] = 41.378.387,79.

$Z_{1.11}$ = 2.310.000 + 46,53 [(205.575,9-18.155,235) + (205.575,9-36.025,21) + (205.575,9-53.815.71) + (205.575,9-74.449,46) + (205.575,9-94.913,465) + (205.575,9-113.188,465) + (205.575,9-131.162,555) + (205.575,9-151.163,15) + (205.575,9-169.778,15) + (205.575,9-186.921,12) + (205.575,9-205.575,9)] = 50.058.456,92.

$Z_{1.12}$ = 2.310.000 + 46,53 [(224.008,15-18.155,235) + (224.008,15-36.025,21) + (224.008,15-53.815.71) + (224.008,15-74.449,46) + (224.008,15-94.913,465) + (224.008,15-113.188,465) + (224.008,15-131.162,555) + (224.008,15-151.163,15) + (224.008,15-169.778,15) + (224.008,15-186.921,12) + (224.008,15-205.575,9) + (224.008,15-224.008,15)] = 59.492.635,43.

$Z_{2.2}$ = 2.310.000 + 46,53 [(17.869,975-17.869,975)] = 2.310.000.

$Z_{2.3}$ = 2.310.000 + 46,53 [(35.660,475-17.869,975) + (35.660,475-35.660,475)] = 3.137.791,965.

$Z_{2.4}$ = 2.310.000 + 46,53 [(56.294,225-17.869,975) + (56.294,225-35.660,475) + (56.294,225-56.294,225)] = 5.057.968,74.

$Z_{2.5}$ = 2.310.000 + 46,53 [(76.758,23-17.869,975) + (76.758,23-35.660,475) + (76.758,23-56.294,225) + (76.758,23-76.758,23)] = 7.914.539,198.

$Z_{2.6}$ = 2.310.000 + 46,53 [(95.033,23-17.869,975) + (95.033,23-35.660,475) + (95.033,23-56.294,225) + (95.033,23-76.758,23) + (95.033,23-95.033,23)] = 11.315.882,2.

$Z_{2.7}$ = 2.310.000 + 46,53 [(113.457,32-17.869,975) + (113.457,32-35.660,475) + (113.457,32-56.294,225) + (113.457,32-76.758,23) + (113.457,32-95.033,23) + (113.457,32+113.457,32)] = 15.602.246,74.

$Z_{2.8}$ = 2.310.000 + 46,53 [(133.007,915-17.869,975) + (133.007,915-35.660,475) + (133.007,915-56.294,225) + (133.007,915-76.758,23) + (133.007,915-95.033,23) + (133.007,915-113.457,32) + (133.007,915-133.007,915)] = 20.129.783,47.

$Z_{2.9}$ = 2.310.000 + 46,53 [(151.622,915-17.869,975) + (151.622,915-35.660,475) + (151.622,915-56.294,225) + (151.622,915-76.758,23) + (151.622,915-95.033,23) + (151.622,915-113.457,32) + (151.622,915-133.007,915) + (151.622,915-151.622,915)] = 27.123.473,51.

$Z_{2.10}$ = 2.310.000 + 46,53 [(168.765,885-17.869,975) + (168.765,885-35.660,475) + (168.765,885-56.294,225) + (168.765,885-76.758,23) + (168.765,885-95.033,23) + (168.765,885-113.457,32) + (168.765,885-133.007,915) + (168.765,885-151.622,915) + (168.765,885-168.765,885)] = 33.504.772,66.

$Z_{2.11}$ = 2.310.000 + 46,53 [(187.420,665-17.869,975) + (187.420,665-35.660,475) + (187.420,665-56.294,225) + (187.420,665-76.758,23) + (187.420,665-95.033,23) + (187.420,665-113.457,32) + (187.420,665-133.007,915) + (187.420,665-151.622,915) + (187.420,665-168.765,885) + (187.420,665-187.420,665)] = 41.316.834,88.

$Z_{2.12}$ = 2.310.000 + 46,53 [(205.843,915-17.869,975) + (205.843,915-35.660,475) + (205.843,915-56.294,225) + (205.843,915-76.758,23)

+ (205.843,915-95.033,23) + (205.843,915-113.457,32)
+ (205.843,915-133.007,915) + (205.843,915-
151.622,915) + (205.843,915-168.765,885) +
(205.843,915-187.420,665) + (205.843,915-
205.843,915)]
= 49.889.173,09.

$Z_{3.3}$ = 2.310.000 + 46,53 [(17.790,5-17.790,5)] = 2.310.000.

$Z_{3.4}$ = 2.310.000 + 46,53 [(38.424,25-17.790,50) + (38.424,25-38.424,25)]
= 3.270.088,388.

$Z_{3.5}$ = 2.310.000 + 46,53 [(58.888,255-17.790,50) + (58.888,255-38.424,25) +
(58.888,255-58.888,255)] = 5.174.468,693.

$Z_{3.6}$ = 2.310.000 + 46,53 [(77.613,255-17.790,50) + (77.613,255-38.424,25) +
(77.613,255-58.888,255) + (77.613,255-77.613,255)]
= 7.788.291,443.

$Z_{3.7}$ = 2.310.000 + 46,53 [(96.037,345-17.790,50) + (96.037,345-38.424,25) +
(96.037,345-58.888,255) + (96.037,345-77.613,255) +
(96.037,345-96.037,345)] = 11.217.383,07.

$Z_{3.8}$ = 2.310.000 + 46,53 [(115.587,94-17.790,50) + (115.587,94-38.424,25) +
(115.587,94-58.888,255) + (115.587,94-77.613,255) +
(115.587,94-96.037,345) + (115.587,94-115.587,94)]
= 15.765.829.

$Z_{3.9}$ = 2.310.000 + 46,53 [(134.202,94-17.790,50) + (134.202,94-38.424,25) + (134.202,94-58.888,255) + (134.202,94-77.613,255) + (134.202,94-96.037,345) + (134.202,94-115.587,94) + (134.202,94-134.202,94)] = 20.962.764,7.

$Z_{3.10}$ = 2.310.000 + 46,53 [(151.345,91-17.790,50) + (151.345,91-38.424,25) + (151.345,91-58.888,255) + (151.345,91-77.613,255) + (151.345,91-96.037,345) + (151.345,91-115.587,94) + (151.345,91-134.202,94) + (151.345,91-151.345,91)] = 26.546.401,46.

$Z_{3.11}$ = 2.310.000 + 46,53 [(170.000,69-17.790,50) + (170.000,69-38.424,25) + (170.000,69-58.888,255) + (170.000,69-77.613,255) + (170.000,69-96.037,345) + (170.000,69-115.587,94) + (170.000,69-134.202,94) + (170.000,69-151.345,91) + (170.000,69-170.000,69)] = 33.490.456,77.

$Z_{3.12}$ = 2.310.000 + 46,53 [(188.432,94-17.790,50) + (188.432,94-38.424,25) + (188.432,94-58.888,255) + (188.432,94-77.613,255) + (188.432,94-96.037,345) + (188.432,94-115.587,94) + (188.432,94-134.202,94) + (188.432,94-151.345,91) + (188.432,94-170.000,69) + (188.432,94-188.432,94)] = 41.209.330,1.

$Z_{4.4}$ = 2.310.000 + 46,53 [(20.633,75-20.633,75)] = 2.310.000.

$Z_{4.5}$ = 2.310.000 + 46,53 [(41.097,755-20.633,75) + (41.097,755-41.097,755)]

= 3.262.190,152.

$Z_{4.6}$ = 2.310.000 + 46,53 [(59.372,755-20.633,75) + (59.372,755-41.097,755) + (59.372,755-59.372,755)] = 4.962.861,652.

$Z_{4.7}$ = 2.310.000 + 46,53 [(77.796,845-20.633,75) + (77.796,845-41.097,755) + (77.796.845-59.372,755) + (77.796,845-77.796,845)] = 7.534.680,329.

$Z_{4.8}$ = 2.310.000 + 46,53 [(97.347,44-20.633,75) + (97.347,44-41.097,755) + (97.347,44-59.372,755) + (97.347,44-77.796,845) + (97.347,44-97.347,44)] = 11.173.437,12.

$Z_{4.9}$ = 2.310.000 + 46,53 [(115.962,44-20.633,75) + (115.962,44-41.097,755) + (115.962,44-59.372,755) + (115.962,44-77.796,845) + (115.962,44-97.347,44) + (115.962,44-115.962,44)] = 15.411.156,87.

$Z_{4.10}$ = 2.310.000 + 46,53 [(133.105,41-20.633,75) + (133.105,41-41.097,755) + (133.105,41-59.372,755) + (133.105,41-77.796,845) + (133.105,41-97.347,44) + (133.105,41-115.962,44) + (133.105,41-133.105,41)] = 20.290.191,23.

$Z_{4.11}$ = 2.310.000 + 46,53 [(151.760,19-20.633,75) + (151.760,19-41.097,755) + (151.760,19-59.372,755) + (151.760,19-77.796,845) + (151.760,19-97.347,44) + (151.760,19-115.962,44) + (151.760,19-133.105,41) + (151.760,19-151.760,19)] = 26.207.914,48.

$Z_{4.12}$ = 2.310.000 + 46,53 [(170.192,44-20.633,75) + (170.192,44-41.097,755) + (170.192,44-59.372,755) + (170.192,44-77.796,845) + (170.192,44-97.347,44) + (170.192,44-115.962,44) + (170.192,44-133.105,41) + (170.192,44-151.760,19) + (170.192,44-170.192,44)] = 33.227.460,36.

$Z_{5.5}$ = 2.310.000 + 46,53 [(20.464,005-20.464,005)] = 2.310.000.

$Z_{5.6}$ = 2.310.000 + 46,53 [(38.739,005-20.464,005) + (38.739,005-38.739,005)] = 3.160.335,75.

$Z_{5.7}$ = 2.310.000 + 46,53 [(57.163,095-20.464,005) + (57.163,095-38.739,005) + (57.163,095-57.163,095)] = 4.874.881,565.

$Z_{5.8}$ = 2.310.000 + 46,53 [(76.713,69-20.464,005) + (76.713,69-38.739,005) + (76.713,69-57.163,095) + (76.713,69-76.713,69)] = 7.603.949,121.

$Z_{5.9}$ = 2.310.000 + 46,53 [(95.328,69-20.464,005) + (95.328,69-38.739,005) + (95.328,69-57.163,095) + (95.328,69-76.713,69) + (95.328,69-95.328,69)] = 11.068.572,92.

$Z_{5.10}$ = 2.310.000 + 46,53 [(112.471,66-20.464,005) + (112.471,66-38.739,005) + (112.471,66-57.163,095) + (112.471,66-76.713,69) + (112.471,66-95.328,69) + (112.471,66-112.471,66)] = 15.056.884,89.

$Z_{5.11}$ = 2.310.000 + 46,53 [(131.126,44-20.464,005) + (131.126,44-38.739,005) + (131.126,44-57.163,095) + (131.126,44-76.713,69) +

(131.126,44-95.328,69) + (131.126,44-112.471,66) +

(131.126,44-131.126,44)] = 20.264.926,37.

$Z_{5.12}$ = 2.310.000 + 46,53 [(149.558,69-20.464,005) + (149.558,69-38.739,005) +

(149.558,69-57.163,095) + (149.558,69-76.713,69) +

(149.558,69-95.328,69) + (149.558,69-112.471,66) +

(149.558,69-131.126,44) + (149.558,69-149.558,69)]

= 26.268.494,52.

$Z_{6.6}$ = 2.310.000 + 46,53 [(18.275-18.275)] = 2.310.000.

$Z_{6.7}$ = 2.310.000 + 46,53 [(36.699,09-18.275) + (36.699,09-36.699,09)]

= 3.167.272,909.

$Z_{6.8}$ = 2.310.000 + 46,53 [(56.249,685-18.275) + (56.249,685-36.699,09) +

(56.249,685-56.249,685)] = 4.986.651,278.

$Z_{6.9}$ = 2.310.000 + 46,53 [(74.864,685-18.275) + (74.864,685-36.699,09) +

(74.864,685-56.249,685) + (74.864,685-74.864,685)]

= 7.585.119,128.

$Z_{6.10}$ = 2.310.000 + 46,53 [(92.007,655-18.275) + (92.007,655-36.699,09) +

(92.007,655-56.249,685) + (92.007,655-74.864,685) +

(92.007,655-92.007,655)] = 10.775.768,7.

$Z_{6.11}$ = 2.310.000 + 46,53 [(110.662,435-18.275) + (110.662,435-36.699,09) +

(110.662,435-56.249,685) + (110.662,435-74.864,685)

+ (110.662,435-92.007,655) + (110.662,435-

110.662,435)] = 15.115.803,27.

$Z_{6.12}$ = 2.310.000 + 46,53 [(129.094,685-18.275) + (129.094,685-36.699,09) + (129.094,685-56.249,685) + (129.094,685-74.864,685) + (129.094,685-92.007,655) + (129.094,685-110.662,435) + (129.094,685-129.094,685)] = 20.261.718,82.

$Z_{7.7}$ = 2.310.000 + 46,53 [(18.424,09-18.424,09)] = 2.310.000.

$Z_{7.8}$ = 2.310.000 + 46,53 [(37.974,685-18.424,09) + (37.974,685-37.974,685)] = 3.219.689,186.

$Z_{7.9}$ = 2.310.000 + 46,53 [(56.589,685-18.424,09) + (56.589,685-37.974,685) + (56.589,685-56.589,685)] = 4.952.001,086.

$Z_{7.10}$ = 2.310.000 + 46,53 [(73.732,655-18.424,09) + (73.732,655-37.974,685) + (73.732,655-56.589,685) + (73.732,655-73.732,655)] = 8.142.650,631.

$Z_{7.11}$ = 2.310.000 + 46,53 [(92.387,435-18.424,09) + (92.387,435-37.974,685) + (92.387,435-56.589,685) + (92.387,435-73.732,655) + (92.387,435-92.387,435)] = 10.817.015,92.

$Z_{7.12}$ = 2.310.000 + 46,53 [(110.819,685-18.424,09) + (110.819,685-37.974,685) + (110.819,685-56.589,685) + (110.819,685-73.732,655) + (110.819,685-92.387,435) + (110.819,685-110.819,685)] = 15.105.278,88.

$Z_{8.8}$ = 2.310.000 + 46,53 [(19.550,595-19.550,595)] = 2.310.000.

$Z_{8.9}$ = 2.310.000 + 46,53 [(38.165,595-19.550,595) + (38.165,595-38.165,595)]
= 3.176.155,95.

$Z_{8.10}$ = 2.310.000 + 46,53 [(55.308,565-19.550,595) + (55.308,565-38.165,595) +
(55.308,565-55.308,565)] = 4.771.480,738.

$Z_{8.11}$ = 2.310.000 + 46,53 [(73.963,345-19.550,595) + (73.963,345-38.165,595) +
(73.963,345-55.308,565) + (73.963,345-73.963,345)]
= 7.375.501,478.

$Z_{8.12}$ = 2.310.000 + 46,53 [(92.395,595-19.550,595) + (92.395,595-38.165,595) +
(92.395,595-55.308,565) + (92.395,595-73.963,345) +
(92.395,595-92.395,595)] = 11.122.762,13.

$Z_{9.9}$ = 2.310.000 + 46,53 [(18.615-18.615)] = 2.310.000.

$Z_{9.10}$ = 2.310.000 + 46,53 [(35.757,97-18.615) + (35.757,97-35.757,97)]
= 3.107.662,395.

$Z_{9.11}$ = 2.310.000 + 46,53 [(54.412,75-18.615) + (54.412,75-35.757,97) +
(54.412,75-54.412,75)] = 4.843.676,222.

$Z_{9.12}$ = 2.310.000 + 46,53 [(72.845-18.615) + (72.845-35.757,97) + (72.845-
54.412,75) + (72.845-72.845)] = 7.416.633,998.

$Z_{10.10}$ = 2.310.000 + 46,53 [(17.142,97-17.142,97)] = 2.310.000.

$Z_{10.11}$ = 2.310.000 + 46,53 [(35.797,75-17.142,97) + (35.797,75-35.797,75)]
= 3.178.006,913.

$Z_{10.12}$ = 2.310.000 + 46,53 [(54.230-17.142,97) + (54.230-35.797,75) + (54.230-54.230)] = 4.893.312,098.

$Z_{11.11}$ = 2.310.000 + 46,53 [(18.654,78-18.654,78)] = 2.310.000.

$Z_{11.12}$ = 2.310.000 + 46,53 [(37.087,03-18.654,78) + (37.087,03-37.087,03)] = 3.167.652,593.

$Z_{12.12}$ = 2.310.000 + 46,53 [(18.432,25-18.432,25)] = 2.310.000.

f_e minimum = (Z_{ce} + f_{c-1}) for c = 1, 2, ..., 12.

f_0 = 0,

f_1 = Min ($Z_{1.1}$ + f_0) = (2.310.000 + 0)

= (2.310.000) ***for $Z_{1.1}$ + f_0***

f_2 = Min ($Z_{1.2}$ + f_0; $Z_{2.2}$ + f_1) = (3.141.489,921 + 0; 2.310.000 + 2.310.000)

= (3.141.489,921; 4.620.000) ***for $Z_{1.2}$ + f_0***

f_3 = Min ($Z_{1.3}$ + f_0; $Z_{2.3}$ + f_1; $Z_{3.3}$ + f_2) = (4.797.073,851 + 0; 3.137.791,965 + 2.310.000; 2.310.000 + 3.141.489,921)

= (4.797.073,851; 5.447.791,965; 5.451.489,921) ***for $Z_{1.3}$ + f_0***

f_4 = Min ($Z_{1.4}$ + f_0; $Z_{2.4}$ + f_1; $Z_{3.4}$ + f_2; $Z_{4.4}$ + f_3) = (7.675.245,177 + 0; 5.057.968,74 + 2.310.000; 3.270.088,388 + 3.141.489,921; 2.310.000 + 4.797.073,851)

= (7.675.245,177; 7.367.968,74; 6.411.578,903; 7.107.073,851) ***for $Z_{3.4}$ + f_2***

f_5 = Min ($Z_{1.5} + f_0$; $Z_{2.5} + f_1$; $Z_{3.5} + f_2$; $Z_{4.5} + f_3$; $Z_{5.5} + f_4$) = (11.486.099,64 + 0; 7.914.539,198 + 2.310.000; 5.174.468,693 + 3.141.489,921; 3.262.190,152 + 4.797.073,851; 2.310.000 + 6.411.578,903)

= (11.486.099,64; 10.224.539,2; 8.315.958,614; 8.059.264,004; 8.721.578,31) *for* $Z_{4.5} + f_3$.

f_6 = Min ($Z_{1.6} + f_0$; $Z_{2.6} + f_1$; $Z_{3.6} + f_2$; $Z_{4.6} + f_3$; $Z_{5.6} + f_4$; $Z_{6.6} + f_5$)

= (15.737.778,39 + 0; 11.315.882,2 + 2.310.000; 7.788.291,443 + 3.141.489,921; 4.962.861,652 + 4.797.073,851; 3.160.335,75 + 6.411.578,31; 2.310.000 + 8.059.264,004)

= (15.737.778,39; 13.625.882,2; 10.929.781,36; 9.759.935,504; 9.571.914,06; 10.369.264) *for* $Z_{5.6} + f_4$

f_7 = Min ($Z_{1.7} + f_0$; $Z_{2.7} + f_1$; $Z_{3.7} + f_2$; $Z_{4.7} + f_3$; $Z_{5.7} + f_4$; $Z_{6.7} + f_5$; $Z_{7.7} + f_6$) = (20.881.415,83 + 0; 15.602.246,74 + 2.310.000; 11.217.383,07 + 3.141.489,921; 7.534.680,329 + 4.797.073,851; 4.874.881,565 + 6.411.578,31; 3.167.272,909 + 8.059.264,004; 2.310.000 + 9.571.914,06)

= (20.881.415,83; 17.912.246,74; 14.358.872,99; 12.331.754,18; 11.286.459,88; 11.226.536,91; 11.881.914,06) *for* $Z_{6.7} + f_5$

f_8 = Min ($Z_{1.8} + f_0$; $Z_{2.8} + f_1$; $Z_{3.8} + f_2$; $Z_{4.8} + f_3$; $Z_{5.8} + f_4$; $Z_{6.8} + f_5$; $Z_{7.8} + f_6$; $Z_{8.8} + f_7$) = (27.249.240,14+ 0; 20.129.783,47 + 2.310.000; 15.765.829 + 3.141.489,921; 11.173.437,12 + 4.797.073,851; 7.603.949,121 + 6.411.578,31; 4.986.651,278 + 8.059.264,004; 3.219.689,186 + 9.571.914,06; 2.310.000 + 11.226.536,91)

= (27.249.240,14; 22.439.783,47; 18.907.318,92; 15.970.510,97;
14.015.527,43; 13.045.915,28; 12.791.603,25; 13.536.536,91)
for $Z_{7.8} + f_6$

f_9 = Min ($Z_{1.9} + f_0$; $Z_{2.9} + f_1$; $Z_{3.9} + f_2$; $Z_{4.9} + f_3$; $Z_{5.9} + f_4$; $Z_{6.9} + f_5$; $Z_{7.9} + f_6$; $Z_{8.9} + f_7$; $Z_{9.9} + f_8$) = (34.199.426,24 + 0; 27.123.473,51 + 2.310.000; 20.962.764,7 + 3.141.489,921; 15.411.156,87 + 4.797.073,851; 11.068.572,92 + 6.411.578,31; 7.585.119,128 + 8.059.264,004; 4.952.001,086 + 9.571.914,06; 3.176.155,95 + 11.226.536,91; 2.310.000 + 12.791.603,25)
= (34.199.426,24; 29.433.473,51; 24.104.254,62; 20.208.230,72; 17.480.151,23; 15.644.383,13; 14.523.915,15; 14.402.692,86; 15.101.603,25) *for* $Z_{8.9} + f_7$

f_{10} = Min ($Z_{1.10} + f_0$; $Z_{2.10} + f_1$; $Z_{3.10} + f_2$; $Z_{4.10} + f_3$; $Z_{5.10} + f_4$; $Z_{6.10} + f_5$; $Z_{7.10} + f_6$; $Z_{8.10} + f_7$; $Z_{9.10} + f_8$; $Z_{10.10} + f_9$) = (41.378.387,79 + 0; 33.504.772,66 + 2.310.000; 26.546.401,46 + 3.141.489,921; 20.290.191,23 + 4.797.073,851; 15.056.884,89 + 6.411.578,31; 10.775.768,7 + 8.059.264,004; 8.142.650,631 + 9.571.914,06; 4.771.480,738 + 11.226.536,91; 3.107.662,395 + 12.791.603,25; 2.310.000 + 14.402.692,86)
= (41.378.387,79; 35.814.772,66; 29.687.891,38; 25.087.265,08; 21.468.463,2; 18.835.032,71; 17.714.564,69; 15.998.017,65; 15.899.265,64; 16.712.692,86) *for* $Z_{9.10} + f_8$

f_{11} = Min ($Z_{1.11} + f_0$; $Z_{2.11} + f_1$; $Z_{3.11} + f_2$; $Z_{4.11} + f_3$; $Z_{5.11} + f_4$; $Z_{6.11} + f_5$; $Z_{7.11} + f_6$; $Z_{8.11} + f_7$; $Z_{9.11} + f_8$; $Z_{10.11} + f_9$; $Z_{11.11} + f_{10}$) = (50.058.456,92 + 0; 41.316.834,88 + 2.310.000; 33.490.456,77 + 3.141.489,921; 26.207.914,48 + 4.797.073,851; 20.264.926,37 + 6.411.578,31; 15.115.803,27 + 8.059.264,004; 10.817.015,92 + 9.571.914,06; 7.375.501,478 + 11.226.536,91; 4.843.676,222 + 12.791.603,25; 3.178.006,913 + 14.402.692,86; 2.310.000 + 15.899.265,64)

= (50.058.456,92; 43.626.834,88; 36.631.946,69; 31.004.988,33; 26.676.504,68; 23.175.067,28; 20.388.929,98; 18.602.038,39; 17.635.279,47; 17.580.699,78; 18.209.265,64) ***for $Z_{10.11} + f_9$***

f_{12} = Min ($Z_{1.12} + f_0$; $Z_{2.12} + f_1$; $Z_{3.12} + f_2$; $Z_{4.12} + f_3$; $Z_{5.12} + f_4$; $Z_{6.12} + f_5$; $Z_{7.12} + f_6$; $Z_{8.12} + f_7$; $Z_{9.12} + f_8$; $Z_{10.12} + f_9$; $Z_{11.12} + f_{10}$; $Z_{12.12} + f_{11}$) = (59.492.635 + 0; 49.889.173,09 + 2.310.000; 41.209.330,1 + 3.141.489,921; 33.227.460,36 + 4.797.073,851; 26.268.494,52 + 6.411.578,31; 20.261.718,82 + 8.059.264,004; 15.105.278,88 + 9.571.914,06; 11.122.762,13 + 11.226.536,91; 7.416.633,998 + 12.791.603,25; 4.893.312,098 + 14.402.692,86; 3.167.652,593 + 15.899.265,64; 2.310.000 + 17.580.699,78)

= (59.492.635,43; 52.199.173,09; 44.350.820,02; 38.024.534,22; 32.680.072,83; 28.320.982,83; 24.677.192,94; 22.349.299,04; 20.208.237,24; 19.296.004,96; 19.066.918,23; 19.890.699,78)

for $Z_{11.12} + f_{10}$

Lampiran 4 : Tabel Perhitungan menggunakan Metode Wagner-Whitin Algorithm (Total Variable Cost Matrix Z_{ce})

c	Z_{ce}											
	e = 1	2	3	4	5	6	7	8	9	10	11	12
1	2.310.000	3.141.489,921	4.797.073,851	7.675.245,177	11.486.099,64	15.737.778,39	20.881.415,83	27.249.240,14	34.199.426,24	41.378.387,79	50.058.456,92	59.492.635,43
2		2.310.000	3.137.791,965	5.057.968,74	7.914.539,198	11.315.882,2	15.602.246,74	20.129.783,47	27.123.473,51	33.504.772,66	41.316.834,88	49.889.173,09
3			2.310.000	3.270.088,388	5.174.468,693	7.788.291,443	11.217.383,07	15.765.829	20.962.764,7	26.546.401,46	33.490.456,77	41.209.330,1
4				2.310.000	3.262.190,152	4.962.861,652	7.534.680,329	11.173.437,12	15.411.156,87	20.290.191,23	26.207.914,48	33.227.460,36
5					2.310.000	3.160.335,75	4.874.881,565	7.603.949,121	11.068.572,92	15.056.884,89	20.264.926,37	26.268.494,52
6						2.310.000	3.167.272,909	4.986.651,278	7.585.119,128	10.775.768,7	15.115.803,27	20.261.718,82
7							2.310.000	3.219.689,186	4.952.001,086	8.142.650,631	10.817.015,92	15.105.278,88
8								2.310.000	3.176.155,95	4.771.480,738	7.375.501,478	11.122.762,13
9									2.310.000	3.107.662,395	4.843.676,222	7.416.633,998
10										2.310.000	3.178.006,913	4.893.312,098
11											2.310.000	3.167.652,593
12												2.310.000

Lampiran 5 : Tabel Perhitungan menggunakan Metode Wagner-Whitin Algorithm (Total Variable Cost Alternatives and f_e)

c	e = 1	2	3	4	5	6	7	8	9	10	11	12
1	2.310.000	3.141.489,921	4.797.073,851	7.675.245,177	11.486.099,64	15.737.778,39	20.881.415,83	27.249.240,14	34.199.426,24	41.378.387,79	50.058.456,92	59.492.635,43
2		4.620.000	5.447.791,965	7.367.968,74	10.224.539,2	13.625.882,2	17.912.246,74	22.439.783,47	29.433.473,51	35.814.772,66	43.626.834,88	52.199.173,09
3			5.451.489,921	6.411.578,903	8.315.958,614	10.929.781,36	14.358.872,99	18.907.318,92	24.104.254,62	29.687.891,38	36.631.946,69	44.350.820,02
4				7.107.073,851	8.059.264,004	9.759.935,504	12.331.754,18	15.970.510,97	20.208.230,72	25.087.265,08	31.004.988,33	38.024.534,22
5					8.721.578,31	9.571.914,06	11.286.459,88	14.015.527,43	17.480.151,23	21.468.463,2	26.676.504,68	32.680.072,83
6						10.369.264	11.226.536,91	13.045.915,28	15.644.383,13	18.835.032,71	23.175.067,28	28.320.982,83
7							11.881.914,06	12.791.603,25	14.523.915,15	17.714.564,69	20.388.929,98	24.677.192,94
8								13.536.536,91	14.402.692,86	15.998.017,65	18.602.038,39	22.349.299,04
9									15.101.603,25	15.899.265,64	17.635.279,47	20.208.237,24
10										16.712.692,86	17.580.699,78	19.296.004,96
11											18.209.265,64	19.066.918,23
12												19.890.699,78
f_e	2.310.000	3.141.489,921	4.797.073,851	6.411.578,903	8.059.264,004	9.571.914,06	11.226.536,91	12.791.603,25	14.402.692,86	15.899.265,64	17.580.699,78	19.066.918,23

Lampiran 6 : Jadwal Pemesanan Bahan Baku menggunakan Metode Wagner-Whitin Algorithm

Periode	1	2	3	4	5	6
Demand	18.115,235	17.869,975	17.790,5	20.633,75	20.464,005	18.275
Pesan	36.025,21		38.424,25		38.739,005	
Biaya Pesan	2.310.000		2.310.000		2.310.000	
Biaya Simpan	831.489,93		960.088,38		850.335,75	
TC	3.141.489,93		3.270.088,38		3.160.335,75	
Akumulatif TC	3.141.489,93	3.141.489,93	6.411.578,31	6.411.578,31	9.571.914,06	9.571.914,06

Periode	7	8	9	10	11	12
Demand	18.424,09	19.550,595	18.615	17.142,97	18.654,78	18.432,25
Pesan	37.974,685		35.757,97		37.087,03	
Biaya Pesan	2.310.000		2.310.000		2.310.000	
Biaya Simpan	909.689,18		797.662,39		857.652,59	
TC	3.219.689,18		3.107.662,39		3.167.652,59	
Akumulatif TC	12.791.603,24	12.791.603,24	15.899.265,63	15.899.265,63	19.066.918,22	19.066.918,22

Lampiran 7 : Tabel Perhitungan menggunakan Metode Silver Meal Algorithm

Periode	T	R_T	Incremental Holding Cost = H (T-1) R_T	Kumulatif HC	TRC (T)	$\frac{TRC(T)}{T}$
1	1	18.155,235	0	0	2.310.000	2.310.000
2	2	17.869,975	831.489,936	831.489,936	3.141.489,936	1.570.744,968
3	3	17.790,5	1.655.583,93	2.487.073,866	4.797.073,866	1.599.024,622 *)
3	1	17.790,5	0	0	2.310.000	2.310.000
4	2	20.633,75	960.088,387	960.088,387	3.270.088,387	1.635.044,194
5	3	20.464,005	1.904.380,305	2.864.468,692	5.174.468,692	1.724.822,897 *)
5	1	20.464,005	0	0	2.310.000	2.310.000
6	2	18.275	850.335,75	850.335,75	3.160.335,75	1.580.167,875
7	3	18.424,09	1.714.545,815	2.564.881,565	4.874.881,565	1.624.960,522 *)
7	1	18.424,09	0	0	2.310.000	2.310.000
8	2	19.550,595	909.689,185	909.689,185	3.219.689,185	1.609.844,593
9	3	18.615	1.732.311,9	2.642.001,085	4.952.001,085	1.650.667,028 *)
9	1	18.615	0	0	2.310.000	2.310.000
10	2	17.142,97	797.662,394	797.662,394	3.107.662,394	1.553.831,197
11	3	18.654,78	1.736.013,827	2.533.676,221	4.843.676,221	1.614.558,74 *)
11	1	18.654,78	0	0	2.310.000	2.310.000
12	2	18.432,25	857.652,592	857.652,592	3.167.652,595	1.583.826,298

Keterangan : *) Waktu Melakukan Pesanan

Lampiran 8 : Tabel Jadwal Pemesanan Bahan Baku menggunakan Metode Silver Meal Algorithm

Periode	1	2	3	4	5	6
Demand	18.115,235	17.869,975	17.790,5	20.633,75	20.464,005	18.275
Pesan	36.025,21		38.424,25		38.739,005	
Biaya Pesan	2.310.000		2.310.000		2.310.000	
Biaya Simpan	831.489,93		960.088,38		850.335,75	
TC	3.141.489,93		3.270.088,38		3.160.335,75	
Akumulatif TC	3.141.489,93	3.141.489,93	6.411.578,31	6.411.578,31	9.571.914,06	9.571.914,06

Periode	7	8	9	10	11	12
Demand	18.424,09	19.550,595	18.615	17.142,97	18.654,78	18.432,25
Pesan	37.974,685		35.757,97		37.087,03	
Biaya Pesan	2.310.000		2.310.000		2.310.000	
Biaya Simpan	909.689,18		797.662,39		857.652,59	
TC	3.219.689,18		3.107.662,39		3.167.652,59	
Akumulatif TC	12.791.603,24	12.791.603,24	15.899.265,63	15.899.265,63	19.066.918,22	19.066.918,22

Lampiran 9 : Tabel Perhitungan menggunakan Metode Least Unit Cost

Periode	T	R_T	Kumulatif R_T	Incremental Holding Cost = H (T-1) R_T	Kumulatif HC	TRC *(T)*	$\frac{TRC(T)}{unit}$
1	1	18.155,235	18.155,235	0	0	2.310.000	127,236
2	2	17.869,975	36.025,21	831.489,936	831.489,936	3.141.489,936	87,202
3	3	17.790,5	53.815,71	1.655.583,93	2.487.073,866	4.797.073,866	89,138 *)
3	1	17.790,5	17.790,5	0	0	2.310.000	129,844
4	2	20.633,75	38.424,25	960.088,387	960.088,387	3.270.088,387	85,104
5	3	20.464,005	58.888,255	1.904.380,305	2.864.468,692	5.174.468,692	87,869 *)
5	1	20.464,005	20.464,005	0	0	2.310.000	112,881
6	2	18.275	38.739,005	850.335,75	850.335,75	3.160.335,75	81,580
7	3	18.424,09	57.163,095	1.714.545,815	2.564.881,565	4.874.881,565	85,280 *)
7	1	18.424,09	18.424,09	0	0	2.310.000	125,379
8	2	19.550,595	37.974,685	909.689,185	909.689,185	3.219.689,185	84,785
9	3	18.615	56.589,685	1.732.311,9	2.642.001,085	4.952.001,085	87,507 *)
9	1	18.615	18.615	0	0	2.310.000	124,093
10	2	17.142,97	35.757,97	797.662,394	797.662,394	3.107.662,394	86,908
11	3	18.654,78	54.142,75	1.736.013,827	2.533.676,221	4.843.676,221	89,017 *)
11	1	18.654,78	18.654,78	0	0	2.310.000	123,828
12	2	18.432,25	37.087,03	857.652,592	857.652,592	3.167.652,595	85,411

Keterangan : *) Waktu Melakukan Pesanan

Lampiran 10 : Tabel Jadwal Pemesanan Bahan Baku menggunakan Metode Least Unit Cost

Periode	1	2	3	4	5	6
Demand	18.115,235	17.869,975	17.790,5	20.633,75	20.464,005	18.275
Pesan	36.025,21		38.424,25		38.739,005	
Biaya Pesan	2.310.000		2.310.000		2.310.000	
Biaya Simpan	831.489,93		960.088,38		850.335,75	
TC	3.141.489,93		3.270.088,38		3.160.335,75	
Akumulatif TC	3.141.489,93	3.141.489,93	6.411.578,31	6.411.578,31	9.571.914,06	9.571.914,06

Periode	7	8	9	10	11	12
Demand	18.424,09	19.550,595	18.615	17.142,97	18.654,78	18.432,25
Pesan	37.974,685		35.757,97		37.087,03	
Biaya Pesan	2.310.000		2.310.000		2.310.000	
Biaya Simpan	909.689,18		797.662,39		857.652,59	
TC	3.219.689,18		3.107.662,39		3.167.652,59	
Akumulatif TC	12.791.603,24	12.791.603,24	15.899.265,63	15.899.265,63	19.066.918,22	19.066.918,22

Lampiran 11 : Tabel Perhitungan menggunakan Metode Part – Period Algorithm

Periode	T	R_T	(T -1) R_T	Kumulatif PPA
1	1	18.155,235	(1-1) 18.155,235 = 0	0 < 49.645
2	2	17.869,975	(2-1) 17.869,975 = 17.869,975	17.869,975 < 49.645
3	3	17.790,5	(3-1) 17.790,5 = 35.581	53.450,975 > 49.645 *)
3	1	17.790,5	(1-1) 17.790,5 = 0	0 < 49.645
4	2	20.633,75	(2-1) 20.633,75 = 20.633,75	20.633,75 < 49.645
5	3	20.464,005	(3-1) 20.464,005 = 40.928,01	61.561,76 > 49.645 *)
5	1	20.464,005	(1-1) 20.464,005 = 0	0 < 49.645
6	2	18.275	(2-1) 18.275 = 18.275	18.275 < 49.645
7	3	18.424,09	(3-1) 18.424,09 = 36.848,18	55.123 > 49.645 *)
7	1	18.424,09	(1-1) 18.424,09 = 0	0 < 49.645
8	2	19.550,595	(2-1) 19.550,595 = 19.550,595	19.550,595 < 49.645
9	3	18.615	(3-1) 18.615 = 37.230	56.780,595 > 49.645 *)
9	1	18.615	(1-1) 18.615 = 0	0 < 49.645
10	2	17.142,97	(2-1) 17.142,97 = 17.142,97	17.142,97 < 49.645
11	3	18.654,78	(3-1) 18.654,78 = 37.309,56	54.452,97 > 49.645 *)
11	1	18.654,78	(1-1) 18.654,78 = 0	0 < 49.645
12	2	18.432,25	(2-1) 18.432,25 = 18.432,25	18.432,25 < 49.645

Keterangan : *) Waktu Melakukan Pesanan

Lampiran 12 : Tabel Jadwal Pemesanan Bahan Baku menggunakan Metode Part – Period Algorithm

Periode	1	2	3	4	5	6
Demand	18.115,235	17.869,975	17.790,5	20.633,75	20.464,005	18.275
Pesan	36.025,21		38.424,25		38.739,005	
Biaya Pesan	2.310.000		2.310.000		2.310.000	
Biaya Simpan	831.489,93		960.088,38		850.335,75	
TC	3.141.489,93		3.270.088,38		3.160.335,75	
Akumulatif TC	3.141.489,93	3.141.489,93	6.411.578,31	6.411.578,31	9.571.914,06	9.571.914,06

Periode	7	8	9	10	11	12
Demand	18.424,09	19.550,595	18.615	17.142,97	18.654,78	18.432,25
Pesan	37.974,685		35.757,97		37.087,03	
Biaya Pesan	2.310.000		2.310.000		2.310.000	
Biaya Simpan	909.689,18		797.662,39		857.652,59	
TC	3.219.689,18		3.107.662,39		3.167.652,59	
Akumulatif TC	12.791.603,24	12.791.603,24	15.899.265,63	15.899.265,63	19.066.918,22	19.066.918,22

Lampiran 13 : Tabel Perhitungan menggunakan Metode Incremental Part - Period Algorithm

Periode	T	R_T	(T -1) R_T	PPI
1	1	18.155,235	(1-1) 18.155,235 = 0	0 < 49.645
2	2	17.869,975	(2-1) 17.869,975 = 17.869,975	17.869,975 < 49.645
3	3	17.790,5	(3-1) 17.790,5 = 35.581	35.581 < 49.645
4	4	20.633,75	(4-1) 20.633,75 = 61.901,25	61.901,25 > 49.645 *)
4	1	20.633,75	(1-1) 20.633,75 = 0	0 < 49.645
5	2	20.464,005	(2-1) 20.464,005 = 20.464,005	20.464,005 < 49.645
6	3	18.275	(3-1) 18.275 = 36.550	36.550 < 49.645
7	4	18.424,09	(4-1) 18.424,09 = 55.272,27	55.272,27 > 49.645 *)
7	1	18.424,09	(1-1) 18.424,09 = 0	0 < 49.645
8	2	19.550,595	(2-1) 19.550,595 = 19.550,595	19.550,595 < 49.645
9	3	18.615	(3-1) 18.615 = 37.230	37.230 < 49.645
10	4	17.142,97	(4-1) 17.142,97 = 51.428,91	51.428,91 > 49.645 *)
10	1	17.142,97	(1-1) 17.142,97 = 0	0 < 49.645
11	2	18.654,78	(2-1) 18.654,78 = 18.654,78	18.654,78 < 49.645
12	3	18.432,25	(3-1) 18.432,25 = 36.864,5	36.864,5 < 49.645

Keterangan : *) Waktu Melakukan Pesanan

Lampiran 14 : Tabel Jadwal Pemesanan Bahan Baku menggunakan Metode Incremental Part – Period Algorithm

Periode	1	2	3	4	5	6
Demand	18.115,235	17.869,975	17.790,5	20.633,75	20.464,005	18.275
Pesan	53.815,71			59.372,755		
Biaya Pesan	2.310.000			2.310.000		
Biaya Simpan	1.659.281,902			1.802.525,903		
TC	3.969.281,902			4.112.525,903		
Akumulatif TC	3.969.281,902	3.969.281,902	3.969.281,902	8.081.807,805	8.081.807,805	8.081.807,805

Periode	7	8	9	10	11	12
Demand	18.424,09	19.550,595	18.615	17.142,97	18.654,78	18.432,25
Pesan	56.589,685			54.230		
Biaya Pesan	2.310.000			2.310.000		
Biaya Simpan	1.775.845,135			1.725.659,506		
TC	4.085.845,135			4.035.659,506		
Akumulatif TC	12.167.652,94	12.167.652,94	12.167.652,94	16.203.312,45	16.203.312,45	16.203.312,45