

BAB 6 KESIMPULAN DAN SARAN

6.1. Kesimpulan

1. Dari pengolahan dengan Program Tanagra, *item* yang memiliki hubungan *purchase dependence* adalah sebagai berikut:
 - a. Saus Sambal Sasa Sachet dan Mie Sedap Goreng
 - b. Kopi Kapal Api Spesial Mix 25 Gr dan Rokok Jarum Super
 - c. Kopi Good Day Mocacino dan Rokok Jarum Super
 - d. Kopi White Coffe Tugu Luwak dan Rokok Jarum Super
 - e. Cheetos dan Susu Clevo
2. Berdasarkan dari penggambaran karakteristik yang dilakukan, didapatkan kesimpulan sebagai berikut.
 - a. *Purchase dependence item* sebagian besar terdapat dalam kelas A sehingga informasi dari data mining bermanfaat karena *item* berkontribusi besar terhadap penjualan.
 - b. Informasi dari data mining bermanfaat untuk menghindari kemungkinan *stock-out* pada *purchase dependence item*.

6.2. Saran

1. Dalam membuat keputusan pemesanan, retail sebaiknya mempertimbangkan *purchase dependence item*.
2. Penelitian selanjutnya diharapkan dapat menganalisis persediaan hingga mendapatkan solusi untuk mencegah terjadinya *stock-out* pada *purchase dependence item*.

DAFTAR PUSTAKA

- A.T. Kearney. (2017). Global Retail Development Index 2017. Diakses tanggal 26 November 2017 dari <https://www.atkearney.com/global-retail-development-index/article?/a/the-age-of-focus-2017-full-study>
- Bala, P. K. (2008). Retail Inventory Management with Purchase Dependencies, *Engineering Letter*, 16(4), 12-16.
- Bala, P. K. (2012). An Inventory Replenishment Model under Purchase Dependency in Retail Sale. *International Journal of Computer Applications*, 37(10), 43–48.
- Bala, P. K., Sural, S., & Banerjee, R. N. (2010). Association rule for purchase dependence in multi-item inventory. *Production Planning & Control*, 21(3), 274–285.
- Bank Indonesia. (2017). Retail Sales Survey June 2017. Diakses tanggal 8 Mei 2018 dari <https://www.bi.go.id/en/publikasi/survei/penjualan-eceran/Pages/SPE-June-2017.aspx>
- Berman, B. R., & Evans, J. R. (1997). *Retail Management: A Strategic Approach*. New Jersey: Prentice Hall College Div.
- Buulolo, E. (2013). Implementasi Algoritma Apriori Pada Sistem Persediaan Obat (Studi Kasus : Apotik Rumah Sakit Estomihi Medan). *Pelita informatika Budi Dharma*, 4(1), 71-83.
- Gunadi, G., & Sensuse, D. I. (2012). Penerapan Metode Data Mining Market Basket Analysis Terhadap Data Penjualan Produk Buku Dengan Menggunakan Algoritma Apriori Dan Frequent Pattern Growth (Fp-Growth), *Telematika*, 4(1), 118–132.
- Han, J., & Kamber, M. (2011). *Data Mining: Concepts and Techniques*. San Francisco: Morgan Kaufmann Publishers.
- Heizer, J., & Render B. (2005). *Prinsip-prinsip Manajemen Operasi*, Jakarta: Salemba Empat.
- Kotler, P. T., & Keller, K. L. (2011). *Marketing Management* (14th ed.). New Jearsey: Pearson Prentice Hall.
- Levy, M., & Weitz, B. A. (2007). *Retailing Management* (6th ed.). New York: The McGraw Hill Companies.
- Park, C., & Seo, J. (2013). Consideration of purchase dependence in inventory management. *Computers and Industrial Engineering*, 66(2), 274–285.

- Ramanathan, R. (2006). ABC inventory classification with multiple-criteria using weighted linear optimization. *Computers and Operations Research*, 33(3), 695–700.
- Santosa, B. (2007). *Data Mining: Teknik Pemanfaatan Data untuk Keperluan Bisnis*. Yogyakarta: Graha Ilmu.
- Tampubolon, K., Saragih, H., & Reza, B. (2013). Implementasi Data Mining Algoritma Apriori Pada Sistem Persediaan Alat-Alat Kesehatan. *Informasi Dan Teknologi Ilmiah*, 1(1), 93–106.
- Waters, D. (2003). *Inventory Control and Management* (2nd Edition). Great Britain: Wiley.
- Yamit, Z. (1998). *Manajemen Persediaan*. Yogyakarta: Ekonosia FE-VII.
- Zhang, R. Q., Kaku, I., & Xiao, Y. Y. (2011). Deterministic EOQ with partial backordering and correlated demand caused by cross-selling. *European Journal of Operational Research*, 210(3), 537–551.

LAMPIRAN

Lampiran 1. Perhitungan MAP

BODREX C F 1 STR	May-17		Jun-17	Jul-17			Aug-17	Sep-17	Oct-17
(Stok awal = 2)	29				19				
PO Price	1800				2000				
Good Receipt Qty	10				10				
GR Value	18000				20000				
Good Issue Qty		1	2	1		2	3	1	4
<i>Movements</i>	May-17		Jun-17	Jul-17			Aug-17	Sep-17	Oct-17
Receipt Qty	10	0	0	0	10	0	0	0	0
Issue Qty	0	1	2	1	0	2	3	1	4
Opening Stock (Old Qty)	2	12	11	9	8	18	16	13	12
New Stock value	21600	19800	16200	14400	34400	30577.78	24844.44	22933.33	15288.89
Closing Stock (New Stock)	12	11	9	8	18	16	13	12	8
Moving Average Price	1800	1800	1800	1800	1911.111	1911.111	1911.111	1911.111	1911.111
Markup	700								
MAP + Markup	2611.11111								

GARAM	May-17		Jun-17			Jul-17		Aug-17	Sep-17	Oct-17
(Stok awal = 2)	3				15		3			5
PO Price	1083.33333				1333.3333		1333.333			2000
Good Receipt Qty	12				12		12			12
GR Value	13000				16000		16000			24000
Good Issue Qty		6	5			11		8	3	1
<i>Movements</i>										
Receipt Qty	12	0	0	12	0	12	0	0	0	12
Issue Qty	0	6	5	0	11	0	8	3	1	0
Opening Stock (Old Qty)	2	14	8	3	15	4	16	8	5	4
New Stock value	15166.6667	8666.667	9750	25750	6866.667	22866.67	11433.33	7145.833	5716.667	29716.67
Closing Stock (New Stock)	14	8	3	15	4	16	8	5	4	16
Moving Average Price	1083.33333	1083.333	3250	1716.6667	1716.667	1429.167	1429.167	1429.167	1429.167	1857.292
Markup	166.67									
MAP + Markup	2023.96167									

GAS	May-17				Jun-17				Jul-17				Aug-17				Sep-17				Oct-17			
(Stok awal = 9)																								
PO Price		18000				19000				19000				19000				20000				20000		
Good Receipt Qty		10				9				10				10				5				4		
GR Value		180000				171000				190000				100000				190000				100000		
Good Issue Qty		4				8				13				2				7				9		
<i>Movements</i>																								
Receipt Qty		0				10				0				10				0				5		
Issue Qty		4				0				13				2				7				0		
Opening Stock (Old Qty)		9				5				15				7				16				3		
New Stock value		90000				270000				126000				297000				55687.5				208562.5		
Closing Stock (New Stock)		5				15				7				16				3				11		
Moving Average Price		18000				18000				18000				18562.5				18562.5				18960.23		
Markup		2000																						
MAP + Markup		22471.49594																						

GULA PASIR (1/2 kg pck)	May-17				Jun-17				Jul-17				Aug-17				Sep-17				Oct-17			
Stok awal = 2 kg																								
PO Price		6250				6250				6250				6000				6200				5800		
Good Receipt Qty		10				10				10				10				8				8		
GR Value		60000				62500				25000				60000				62000				46400		
Good Issue Qty		6				4				1				4				3				7		
<i>Movements</i>																								
Receipt Qty		10				0				10				0				10				0		
Issue Qty		0				6				0				4				3				7		
Opening Stock (Old Qty)		4				14				8				18				14				18		
New Stock value		85000				49000				111500				86722.222				111722.2				105515.4		
Closing Stock (New Stock)		14				8				18				14				18				17		
Moving Average Price		6000				6125				6194.44				6194.4444				6206.79				6206.79		
Markup		700.00																						
MAP + Markup		6760.520026																						

ROKOK BINTANG BUANA	May-17				Jun-17				Jul-17				Aug-17				Sep-17				Oct-17			
Stok awal = 11																								
PO Price		12000				12500				12500				12750				12600				12800		
Good Receipt Qty		10				10				10				10				10				10		
GR Value		120000				125000				125000				127500				126000				128000		
Good Issue Qty		7				4				4				1				7				8		
<i>Movements</i>																								
Receipt Qty		0				10				0				10				0				10		
Issue Qty		7				4				4				1				0				7		
Opening Stock (Old Qty)		11				4				10				6				5				15		
New Stock value		48000				118000				70800				59000				184000				98133.33		
Closing Stock (New Stock)		4				10				6				5				15				8		
Moving Average Price		12500				11800				11800				12266.67				12266.67				12396.3		
Markup		1000																						
MAP + Markup		13765.92078																						

ROKOK GG PROMILD	May-17		Jun-17		Jul-17		Aug-17		Sep-17	Oct-17				
Stok awal = 2		8		22		17		14			12			
PO Price		12800		12800		13000		13200			13100			
Good Receipt Qty		10		10		5		5			10			
GR Value		128000		128000		65000		66000			131000			
Good Issue Qty	1		5		9	2		7	3		1	2		
<i>Movements</i>														
Receipt Qty	0	10	0	10	0	0	5	0	5	0	0	10	0	
Issue Qty	1	0	5	0	9	2	0	7	0	3	0	1	0	2
Opening Stock (Old Qty)	2	1	11	6	16	7	5	10	3	8	5	5	4	14
New Stock value	12800	140800	76800	204800	89600	64000	129000	38700	104700	65437.5	65437.5	52350	183350	157157.1
Closing Stock (New Stock)	1	11	6	16	7	5	10	3	8	5	5	4	14	12
Moving Average Price	12800	12800	12800	12800	12800	12800	12900	12900	13087.5	13087.5	13087.5	13087.5	13096.43	13096.43
Markup		700												
MAP + Markup		13796.43												

ROKOK 76	May-17		Jun-17		Jul-17		Aug-17		Sep-17		Oct-17										
Stok awal = 8	1		11		1		11		2		7		6		24		11				
PO Price	11000		11000		11000		11000		11500		11200		11200		11400		11450				
Good Receipt Qty	10		10		20		20		20		10		10		10		10				
GR Value	110000		55000		220000		220000		230000		112000		112000		114000		114500				
Good Issue Qty	1	8		15	1	12		3	16	2	16	3	1	14	3	2	4	7	7	3	6
<i>Movements</i>																					
Receipt Qty	10	0	10	0	20	0	20	0	20	0	0	10	0	0	10	0	10	0	0	10	0
Issue Qty	1	8	0	15	1	12	3	16	2	16	3	1	14	3	2	4	0	7	7	3	6
Opening Stock (Old Qty)	8	17	9	19	4	23	11	28	12	30	14	11	20	6	3	11	7	17	10	3	10
New Stock value	187000	99000	154000	32421.053	244315.8	116846.7	304979.4	130705.5	338921.2	158163.2	124271.1	224973.7	67492.12	33746.06	123248.7	78430.98	192431	113194.7	33958.41	114500	45800
Closing Stock (New Stock)	17	9	19	4	23	11	28	12	30	14	11	20	6	3	11	7	17	10	3	10	4
Moving Average Price	11000	11000	8105.26	8105.2632	10622.43	10622.43	10892.12	10892.12	11297.37	11297.37	11297.37	11248.69	11248.69	11248.69	11204.43	11204.43	11319.47	11319.47	11319.47	11450	11450
Markup		1000.00																			
MAP + Markup		12450.00																			

ROKOK MLD	May-17					Jun-17					Jul-17					Aug-17					Sep-17					Oct-17									
Stok awal = 17																																			
PO Price	17300					17300					17300					17500					17500					17600	17750	17850	17700		17800	17800			
Good Receipt Qty	10					10					10					15					15					5	10	5	10		10	10			
GR Value	173000					173000					175000					175000					262500					262500	262500	88000	177500	89250	177000	178000	178000	88850	
Good Issue Qty	12					9	1	5	4	7	1	5				13	5	1	8	3	11	6	1	5		12	3	1	4	1	4	2	7	1	4
Movements																																			
Receipt Qty	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	15	0	0	15	0	15	0	15	0	15	0	0	5	0	10	0	5	0	10	0
Issue Qty	12	0	9	1	5	4	7	1	5	0	13	5	1	8	3	11	6	1	5	0	12	3	1	4	1	4	2	7	1	4	2	1	8	3	7
Opening Stock (Old Qty)	17	5	15	6	15	10	16	9	18	13	23	10	5	14	6	18	7	1	15	10	25	13	10	14	10	19	15	18	11	20	16	14	23	15	22
New Stock value	86500	259500	103800	259500	173000	276800	155700	311400	224900	399900	173869.6	86934.78	244547.8	104806.2	314903.1	122462.3	17494.62	262500	175000	437500	227500	175000	245500	175357.1	335321.4	264727.4	318680.451	194749.2	354044.7	283235.8	247831.3	408129.1	266171.1	390936.9	266547.9
Closing Stock (New Stock)	5	15	6	15	10	16	9	18	13	23	10	5	14	6	18	7	1	15	10	25	13	10	14	10	19	15	18	11	20	16	14	23	15	22	15
Moving Average Price	17300	17300	17300	17300	17300	17300	17300	17300	17300	17386.96	17386.96	17386.96	17467.7	17467.7	17494.62	17494.62	17494.62	17500	17500	17500	17500	17500	17535.71	17535.71	17648.5	17648.5	17704.4695	17704.47	17702.23	17702.23	17702.23	17744.74	17744.74	17769.86	17769.86
Markup	1000.00																																		
MAP + Markup	18769.90																																		

ROKOK DIARUM SUPER	May-17					Jun-17					Jul-17					Aug-17					Sep-17					Oct-17									
Stok awal=9	1	5	11	16		4	9	14	23		1	4	17	23		31	6	11	14	20	28	1	9	14	21		8	13	18	25	31				
PO Price	14900	14900	14900	14900		14900	14900	14900	14900		15100	15100	15000	15100		15000	15000	15100	15000	15100	15000	15200	15000	15000	15100	15000	15000	15000	15100	15000	15000	15000	15000	15000	15200
Good Receipt Qty	10	10	20	30		10	10	20	20		10	10	20	20		10	10	10	10	10	10	10	20	20	20	20	20	10	10	15	10				
GR Value	149000	149000	298000	447000		149000	149000	298000	298000		151000	151000	300000	302000		150000	150000	151000	150000	151000	150000	152000	300000	300000	302000	300000	300000	300000	302000	300000	151000	150000	150000	225000	152000
Good Issue Qty	2	5	3	10		19	4	25	5	3	8	8	16	2	16	3	7	2	10	2	16	4	11	2	10	1	9	3	2	3	10	2	14	2	4
Movements																																			
Receipt Qty	10	0	10	0	20	0	30	0	0	10	0	10	0	10	0	20	0	20	0	20	0	10	0	10	0	10	0	10	0	10	0	10	0	20	0
Issue Qty	2	5	3	10	0	19	4	25	5	3	8	0	8	0	16	2	16	3	7	2	10	2	16	4	11	2	10	1	9	3	2	3	10	2	14
Opening Stock (Old Qty)	9	17	12	19	9	29	10	36	11	6	13	5	15	7	27	11	29	13	20	13	21	11	29	13	29	18	26	16	25	16	23	21	28	18	26
New Stock value	253300	178800	283100	134100	432100	149000	536400	163900	89400	193700	74500	223500	104300	402300	163900	432100	193700	300000	316000	166523.8	435428.6	195192.1	437133	271323.9	391176.8	240724.203	375678.9	240434.5	346353	316235.4	421058.9	270680.7	391605.1	180740.8	
Closing Stock (New Stock)	17	12	19	9	29	10	36	11	6	13	5	15	7	27	11	29	13	20	13	21	11	29	13	29	18	26	16	25	16	23	21	28	18	26	12
Moving Average Price	14900	14900	14900	14900	14900	14900	14900	14900	14900	14900	14900	14900	14900	14900	14900	14900	15000	15000	15047.62	15047.62	15014.78	15014.78	15073.55	15073.55	15045.26	15027.16	15027.16	15027.16	15027.16	15027.16	15027.16	15027.16	15027.16	15027.16	15027.16
Markup	1100.00																																		
MAP + Markup	16234.60																																		