



PROGRAM STUDI D3 PERBANKAN SYARIAH
FAKULTAS EKONOMI DAN BISNIS ISLAM
UIN RADEN FATAH PALEMBANG

Alamat : Jl. Prof K.H Zainal Abidin Fikri, KM 3,5 Telepon (0711) 353276, Palembang 30126

Nama
NIM
Fakultas/ Jurusan
Judul Laporan

: FajrianRamdhan
: 1526100074
: FEBI/ D3 Perbankan Syariah
: Analisis Prediksi Tingkat Resiko Kebangkrutan Dengan Menggunakan Metode
Model Altman Z-Score Dan Metode Model Grover G-Score Pada Bank
SyariahMandiri
Pembimbing I : Dinnul Alfian Akbar, SE, M.Si

No	Hari/ Tanggal	Hal yang Dikonsultasikan	Paraf
①		Az profile Syk ob I - ii	→
②		Res: ob I - ii tambah metode warna aslin	→
③		Az ob I - ii Syk ob ii	→
④	21/5 - 15	Az ob I - ii Syk 1/12/15	→



PROGRAM STUDI D3 PERBANKAN SYARIAH
FAKULTAS EKONOMI DAN BISNIS ISLAM
UIN RADEN FATAH PALEMBANG

Alamat : Jl. Prof K.H Zainal Abidin Fikri, KM 3,5 Telepon (0711) 353276, Palembang 30126

LEMBAR KONSULTASI

Nama : Fajrian Ramadhan
NIM : 1526100074
Fakultas/ Jurusan : FEBI/ D3 Perbankan Syariah
Judul Laporan : Analisis Prediksi Tingkat Resiko Kebangkrutan Dengan Menggunakan Metode Model Altman Z-Score Dan Metode Model Grover G-Score Pada Bank Syariah Mandiri
Pembimbing II : Fernando Africano, SEI, M.Si

No	Hari/ Tanggal	Hal yang Dikonsultasikan	Paraf
		Acc Proposal	
	27/09/18	Bab I Latar belakang tambahkan alasan mengapa BSM	
		Bab II tampilkan mengapa menggunakan metode z score dan b score	
		Bab III Metodologi Penelitian tambahkan uji beda	
	08/10/18	Bab II tambahkan hipotesis	
		Bab III pakek uji lapistik	



PROGRAM STUDI D3 PERBANKAN SYARIAH
FAKULTAS EKONOMI DAN BISNIS ISLAM
UIN RADEN FATAH PALEMBANG

Alamat : Jl.Prof K.H Zainal Abidin Fikri. KM 3,5 Telepon (0711) 353276, Palembang 30126

LEMBAR KONSULTASI

: FajrianRamadhan
: 1526100074
: FEBI/ D3 Perbankan Syariah
: Analisis Prediksi Tingkat Resiko Kebangkrutan Dengan Menggunakan Metode Model Altman Z-Score Dan Metode Model Grover G-Score Pada Bank Syariah Mandiri
: Fernando Africano, SEI, M.Si

Hari/ Tanggal	Hal yang Dikonsultasikan	Paraf
16-10-18	Acc Bab I-III	
08/05/19	Perbaiki Data nya	
14/05/19	tambah tahun pengamatan	
20/05-19	Pembahasan lebih diperluas dan tambahkan perbandingan kedua model	
21-05/19	Acc Bab 1-2 lapar diujikan	

LAMPIRAN

Tahap 1: MODEL ALTMAN (Z-SCORE = $1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$)

2008	AL/HL	WC/TA (X1)	RE/TA (X2)	EBIT/TA (X3)	MV/BV (X4)	S/TA (X5)
Tw 1	6328187-2811176	3517011/14031239	69157/14031239	564991/14031239	857617/495835	311901/14031239
Tw 2	7139487-3956759	3182728/16285555	141130/16285555	1143499/16285555	1007661/656015	636932/16285555
Tw 3	8087917-3574781	4513136/16539350	216612/16539350	1765919/16539350	1058761/1170829	986982/16539350
Tw 4	7955846-2899268	5056578/17065938	284085/17065938	2409013/17065938	1208428/1048584	1314977/17065938
2009	AL/HL	WC/TA (X1)	RE/TA (X2)	EBIT/TA (X3)	MV/BV (X4)	S/TA (X5)
Tw 1	8033310-2998088	5035222/17704474	90778/17704474	625920/17704474	1372446/974774	318966/17704474
Tw 2	8508935-3481289	5027646/18684103	178598/18684103	1299157/18684103	1434632/1008781	677008/18684103
Tw 3	8995941-3746575	5249366/19391748	286679/19391748	2015676/19391748	1507472/820312	1091581/19391748
Tw 4	9882635-3949088	5933547/22036535	418403/22036535	2837786/22036535	1600460/1268070	1563760/22036535
2010	AL/HL	WC/TA (X1)	RE/TA (X2)	EBIT/TA (X3)	MV/BV (X4)	S/TA (X5)
Tw 1	11093584-3795383	7298201/23812128	378331/23812128	719657/23812128	1688099/985157	471481/23812128
Tw 2	12391012-7502672	4888340/26384992	488541/26384992	1511713/26384992	1798589/1265400	976217/26384992
Tw 3	13961389-4901169	9060220/28053984	610992/28053984	2379624/28053984	1919817/1257360	1536011/28053984
Tw 4	15815420-5754957	10060463/32481873	709463/32481873	3446382/32481873	2020615/1470925	2257469/32481873
2011	AL/HL	WC/TA (X1)	RE/TA (X2)	EBIT/TA (X3)	MV/BV (X4)	S/TA (X5)
Tw 1	15202709-6395774	8806935/36269321	553413/36269321	1059482/36269321	2353379/1677046	684182/36269321
Tw 2	20891814-5896406	14995408/38251696	688521/38251696	2194157/38251696	2491375/1841958	1387392/38251696
Tw 3	25413717-7339979	18073738/43511837	827640/43511837	3434402/43511837	2629961/2429486	2155553/43511837
Tw 4	27624759-7065558	20559201/48671950	969590/48671950	5056218/48671950	3073364/1860152	3247516/48671950
2012	AL/HL	WC/TA (X1)	RE/TA (X2)	EBIT/TA (X3)	MV/BV (X4)	S/TA (X5)
Tw 1	28291548-8056097	20235451/49616835	743792/49616835	1403164/49616835	3266119/2557719	912718/49616835
Tw 2	30504396-7333368	23171028/49703905	947910/49703905	2853012/49703905	3467660/1899372	1857410/49703905

Dalam Jutaan Rupiah

Tw 3	32452071-8562518	23889553/51203659	1145494/51203659	4343940/51203659	3667376/2243345	2868262/51203659
Tw 4	35124756-9593172	25531584/54229396	1363301/54229396	6055278/54229396	4180691/2217812	4088120/54229396
2013	AL/HL	WC/TA (X1)	RE/TA (X2)	EBIT/TA (X3)	MV/BV (X4)	S/TA (X5)
Tw 1	36446155-8330094	28116061/55479062	1067835/55479062	1562465/55479062	4436305/2190992	1082479/55479062
Tw 2	38029826-9683926	28345900/58483564	1178980/58483564	3289678/58483564	4546724/2258206	2301341/58483564
Tw 3	39785244-9605756	30179488/61810295	1287884/61810295	4981557/61810295	4655617/2359550	3471273/61810295
Tw 4	40593144-11350744	29242400/63965361	1463471/63965361	6776206/63965361	4861999/2175748	4647564/63965361
2014	AL/HL	WC/TA (X1)	RE/TA (X2)	EBIT/TA (X3)	MV/BV (X4)	S/TA (X5)
Tw 1	39961948-48520263	-8558315/63009396	851742/63009396	1694558/63009396	5063064/2260833	1092929/63009396
Tw 2	40062387-58511607	-18449220/62786572	801386/62786572	3393104/62786572	5013236/1962651	2148262/62786572
Tw 3	39451015-58763409	-19312394/65368281	926397/65368281	4084650/65368281	5138655/1995288	3214660/65368281
Tw 4	39745355-58959342	-19213987/66942422	723018/66942422	5851461/66942422	4936978/2009090	4348988/66942422
2015	AL/HL	WC/TA (X1)	RE/TA (X2)	EBIT/TA (X3)	MV/BV (X4)	S/TA (X5)
Tw 1	39026356-10469019	28557337/67151521	2975231/67151521	1809274/67151521	5033495/2350093	1155358/67151521
Tw 2	52398488-10605548	41792940/66953689	3279743/66953689	4144031/66953689	5072861/2154972	1590933/66953689
Tw 3	52728160-9290613	43437547/67120476	3296170/67120476	6379502/67120476	5088309/1504681	2595360/67120476
Tw 4	53504114-10201003	43303111/70369709	2944698/70369709	8591524/70369709	5613739/2084312	3606798/70369709
2016	AL/HL	WC/TA (X1)	RE/TA (X2)	EBIT/TA (X3)	MV/BV (X4)	S/TA (X5)
Tw 1	52723525-9926195	42797330/71548944	2920413/71548944	2198921/71548944	5690986/2150487	976379/71548944
Tw 2	54504023-11375516	43128507/72022855	3012336/72022855	4349677/72022855	5782499/1924535	1987715/72022855
Tw 3	55198756-10761797	44436959/74241902	3090855/74241902	6567965/74241902	5860536/1879280	3052821/74241902
Tw 4	56272984-11544938	44728046/78831722	3170112/78831722	9011112/78831722	6392437/2090651	4243724/78831722
2017	AL/HL	WC/TA (X1)	RE/TA (X2)	EBIT/TA (X3)	MV/BV (X4)	S/TA (X5)
Tw 1	56545087-12296631	44248456/80012307	3260373/80012307	2388496/80012307	6483029/2096116	1135178/80012307
Tw 2	57338789-14198907	43139882/81901309	3251142/81901309	4864204/81901309	6569348/2635540	2385566/81901309
Tw 3	57079520-13886468	43193052/84087348	3331136/84087348	7446942/84087348	6649812/2289894	3642902/84087348

Tw 4	58554408-13976724	44577684/87939774	3435278/87939774	10072047/87939774	7314241/2326974	4914787/87939774
2018	AL/HL	WC/TA (XI)	RE/TA (X2)	EBIT/TA (X3)	MV/BV (X4)	S/TA (X5)
tw 1	59664692-14597960	45066732/92976854	3070112/92976854	1852068/92976854	7434835/2937821	1234259/92976854
tw 2	61484463-16402954	45081509/92813105	3187987/92813105	3785198/92813105	7.573.923/2447678	2522981/92813105
tw 3	62204834-14156490	48048344/93347112	3346788/93.347.112	8914084/93347112	7871582/2825072	3.888.201/93347112
tw 4	64785790-15285872	49499918/98341116	3577231/98341116	10673119/98341116	8039165/2830108	5279393/98341116

Tahap 2:

		Dalam Jutaan Rupiah				
Model Altman	TW	WC/TA(X1*1,2)	RE/TA(X2*1,4)	EBIT/TA(X3*3,3)	MVOE/BVOTD(X4*0,6)	S/TA(X5*1,0)
tahun 2008	Triwulan 1	0.250655769	0.004928788	0.040266651	1.729641917	0.022229042
	Triwulan 2	0.195432578	0.008665962	0.070215538	1.536033475	0.039110242
	Triwulan 3	0.272872634	0.013096766	0.106770762	0.904283204	0.059674776
	Triwulan 4	0.296296518	0.016646316	0.141159132	1.152437954	0.077052723
Tahun 2009	Triwulan 1	0.284405931	0.005127405	0.035353776	1.407963282	0.018016124
	Triwulan 2	0.269086827	0.009558821	0.069532747	1.422144152	0.03623444
	Triwulan 3	0.270701022	0.014783556	0.103945039	1.837681272	0.056291006
	Triwulan 4	0.269259527	0.018986787	0.128776416	1.262122753	0.070962154
tahun 2010	Triwulan 1	0.306490919	0.015888164	0.030222288	1.71353297	0.019800036
	Triwulan 2	0.185269717	0.018515867	0.057294427	1.421360044	0.03699895
	Triwulan 3	0.322956625	0.021779153	0.084823033	1.526863428	0.054751974
	Triwulan 4	0.309725458	0.021841813	0.106101702	1.373703622	0.069499348
Tahun 2011	Triwulan 1	0.242820509	0.015258433	0.02921152	1.403288282	0.018863932
	Triwulan 2	0.392019428	0.017999751	0.057361038	1.352568843	0.036270078
	Triwulan 3	0.4153752	0.019021031	0.078930292	1.082517454	0.049559462
	Triwulan 4	0.422403479	0.01992092	0.103883613	1.652157458	0.066722537
Tahun 2012	Triwulan 1	0.407834377	0.014990718	0.028279998	1.276965531	0.018395329

tahun 2013	Triwulan 2	0.466181239	0.019071137	0.057400158	1.825687648	0.037369498
	Triwulan 3	0.466559489	0.022371331	0.084836515	1.634780205	0.056016739
	Triwulan 4	0.470807088	0.02513952	0.111660436	1.885052024	0.073385682
	Triwulan 1	0.506786885	0.019247532	0.028163147	2.024792879	0.019511487
Tahun 2014	Triwulan 2	0.484681474	0.020159168	0.056249616	2.013423045	0.039350218
	Triwulan 3	0.488259893	0.020836076	0.080594293	1.973095294	0.056160111
	Triwulan 4	0.457159931	0.022879117	0.105935555	2.234633331	0.072657512
	Triwulan 1	-0.135826012	0.013517698	0.026893735	2.239468373	0.017345492
Tahun 2015	Triwulan 2	-0.293840218	0.012763653	0.054041874	2.554318623	0.03421531
	Triwulan 3	-0.295439833	0.014171965	0.062486728	2.575395131	0.049177674
	Triwulan 4	-0.287022585	0.010800595	0.087410357	2.457320478	0.064966099
	Triwulan 1	0.425267166	0.044306234	0.026943157	2.141828004	0.017205239
Tahun 2016	Triwulan 2	0.624206681	0.048985247	0.061893991	2.35402641	0.023761693
	Triwulan 3	0.647157911	0.049108263	0.095045542	3.381652988	0.038667187
	Triwulan 4	0.615365782	0.041846102	0.122091225	2.693329502	0.05125498
	Triwulan 1	0.5981546	0.040816997	0.030733102	2.646370799	0.013646309
Tahun 2017	Triwulan 2	0.598816959	0.041824724	0.06039301	3.004621376	0.027598392
	Triwulan 3	0.598542842	0.041632217	0.08846709	3.118500702	0.041119919
	Triwulan 4	0.567386388	0.040213659	0.114308197	3.057629896	0.053832694
	Triwulan 1	0.553020625	0.040748394	0.039063985	3.092877016	0.014187542
tahun 2018	Triwulan 2	0.526730067	0.039695849	0.059391041	2.492600378	0.029127324
	Triwulan 3	0.513668858	0.039615187	0.08856198	2.903982455	0.043322831
	Triwulan 4	0.506911514	0.039063985	0.114533465	3.143241394	0.055888101
	Triwulan 1	0.484709151	0.033020175	0.019919667	2.53073111	0.013274906
	Triwulan 2	0.48572353	0.034348458	0.040783012	3.09432981	0.027183456
	Triwulan 3	0.514727697	0.03585315	0.095493945	2.786329694	0.041653147

	Triwulan 4	0.503349159	0.036375741	0.108531603	2.840585942	0.053684493
--	------------	-------------	-------------	-------------	-------------	-------------

Tahap 3:

Model Altman	TW	Dalam Jutaan Rupiah					Ker	Kategori
		(X1)*1,2	(X2)*1,4	(X3)*3,3	(X4)*0,6	(X5)*1,0	Z-SCORE	
tahun 2008	Triwulan 1	0.300786923	0.006900303	0.132879947	1.03778515	0.0222229042	1.500581365	B
	Triwulan 2	0.234519094	0.012132347	0.231711274	0.921620085	0.039110242	1.439093042	B
	Triwulan 3	0.327447161	0.018335473	0.352343514	0.542569923	0.059674776	1.300370846	B
	Triwulan 4	0.355555821	0.023304843	0.463825137	0.691462773	0.077052723	1.613201296	B
Tahun 2009	Triwulan 1	0.341284717	0.007178366	0.116667459	0.844777969	0.018016124	1.327924636	B
	Triwulan 2	0.322904193	0.01338235	0.229458064	0.853286491	0.03623444	1.455265537	B
	Triwulan 3	0.324841226	0.020696979	0.343018628	1.102608763	0.056291006	1.847456603	B
	Triwulan 4	0.323111433	0.026581502	0.424962173	0.757273652	0.070962154	1.602890915	B
tahun 2010	Triwulan 1	0.367789103	0.02224343	0.099733552	1.028119782	0.019800036	1.537685903	B
	Triwulan 2	0.22232366	0.025922214	0.189071609	0.852816027	0.03699895	1.32713246	B
	Triwulan 3	0.38754795	0.030490814	0.279916008	0.916118057	0.054751974	1.668824803	B
	Triwulan 4	0.37167055	0.030578538	0.350135616	0.824222173	0.069499348	1.646106225	B
Tahun 2011	Triwulan 1	0.291384611	0.021361806	0.096398016	0.841972969	0.018863932	1.269981335	B
	Triwulan 2	0.470423314	0.025199651	0.189291426	0.811541306	0.036270078	1.532725775	B
	Triwulan 3	0.49845024	0.026629443	0.260469964	0.649510473	0.049539462	1.484599582	B
	Triwulan 4	0.506884175	0.027889287	0.342815922	0.991294475	0.066722537	1.935606396	TB
Tahun 2012	Triwulan 1	0.489401253	0.020987006	0.093323994	0.766179318	0.018395329	1.388286899	B
	Triwulan 2	0.559417486	0.026699592	0.189420521	1.095412589	0.037369498	1.908319688	TB
	Triwulan 3	0.559871387	0.031319863	0.2799605	0.980868123	0.056016739	1.908036613	TB
	Triwulan 4	0.564968505	0.035195328	0.368479439	1.131031215	0.075385682	2.175060169	TB
tahun 2013	Triwulan 1	0.608144262	0.026946544	0.092938386	1.214875728	0.019511487	1.962416407	TB
	Triwulan 2	0.581617769	0.028222835	0.185623732	1.208053827	0.039350218	2.042868381	TB

2014	Triwulan 3	0.585911871	0.029170506	0.265961166	1.183857176	0.056160111	2.12106083	TB	0
	Triwulan 4	0.548591917	0.032030764	0.349587331	1.340779998	0.072657512	2.343647522	TB	0
	Triwulan 1	-0.162991214	0.018924778	0.088749326	1.343681024	0.017345492	1.305709405	B	1
	Triwulan 2	-0.352608262	0.017869114	0.178338184	1.532591174	0.03421531	1.410405519	B	1
2015	Triwulan 3	-0.354527799	0.019840751	0.206206203	1.545237079	0.049177674	1.465933907	B	1
	Triwulan 4	-0.344427102	0.015120833	0.288454178	1.474392287	0.064966099	1.498506295	B	1
	Triwulan 1	0.510320599	0.062028728	0.088912419	1.285096803	0.017205239	1.963563788	TB	0
	Triwulan 2	0.749048017	0.068579346	0.204250169	1.412415846	0.023761693	2.458055071	TB	0
2016	Triwulan 3	0.776589493	0.068751568	0.313650288	2.028991793	0.038667187	3.226650329	TB	0
	Triwulan 4	0.738438938	0.058584542	0.402901044	1.615997701	0.05125498	2.867177205	TB	0
	Triwulan 1	0.71778552	0.057143795	0.101419237	1.587822479	0.013646309	2.477817341	TB	0
	Triwulan 2	0.718580351	0.058554613	0.199296933	1.802772826	0.027598392	2.806803114	TB	0
2017	Triwulan 3	0.71825141	0.058285104	0.291941396	1.871100421	0.0411119919	2.980698251	TB	0
	Triwulan 4	0.680863666	0.056299123	0.37721705	1.834577938	0.053832694	3.00279047	TB	0
	Triwulan 1	0.66362475	0.057047751	0.12891115	1.85572621	0.014187542	2.719497403	TB	0
	Triwulan 2	0.632076081	0.055574189	0.195990435	1.495560227	0.029127324	2.408328256	TB	0
2018	Triwulan 3	0.616402629	0.055461262	0.292254533	1.742389473	0.043322831	2.749830728	TB	0
	Triwulan 4	0.608293817	0.054689579	0.377960433	1.885944837	0.055888101	2.982776767	TB	0
	Triwulan 1	0.581650982	0.046228245	0.065734902	1.518438666	0.013274906	2.225327701	TB	0
	Triwulan 2	0.582868236	0.048087841	0.13458394	1.856597886	0.027183456	2.64932136	TB	0
	Triwulan 3	0.617673237	0.05019441	0.315130019	1.671797816	0.041653147	2.696448629	TB	0
	Triwulan 4	0.60401899	0.050926038	0.358154291	1.7043351565	0.053684493	2.771135378	TB	0

Tahap 1: Model Grover (G-SCORE) = $1,650X1 + 3,404X3 + 0,016ROA + 0,057$ **Dalam Jutaan Rupiah**

2008	AL/HL	WC/TA (X1)	EBIT/TA (X3)	NET INCOME/TA (ROA)
Tw 1	6328187-2811176	3517011/14031239	564991/14031239	311901/14031239
Tw 2	7139487-3956759	3182728/16285555	1143499/16285555	636932/16285555
Tw 3	8087917-3574781	4513136/16539350	1765919/16539350	986982/16539350
Tw 4	7955846-2899268	5056578/17065938	2409013/17065938	1314977/17065938
2009	AL/HL	WC/TA (X1)	EBIT/TA (X3)	NET INCOME/TA (ROA)
Tw 1	8033310-2998088	5035222/17704474	625920/17704474	318966/17704474
Tw 2	8508935-3481289	5027646/18684103	1299157/18684103	677008/18684103
Tw 3	8995941-3746575	5249366/19391748	2015676/19391748	1091581/19391748
Tw 4	9882635-3949088	5933547/22036535	2837786/22036535	1563760/22036535
2010	AL/HL	WC/TA (X1)	EBIT/TA (X3)	NET INCOME/TA (ROA)
Tw 1	11093584-3795383	7298201/23812128	719657/23812128	471481/23812128
Tw 2	12391012-7502672	4888340/26384992	1511713/26384992	976217/26384992
Tw 3	13961389-4901169	9060220/28053984	2379624/28053984	1536011/28053984
Tw 4	15815420-5754957	10060463/32481873	3446382/32481873	2257469/32481873
2011	AL/HL	WC/TA (X1)	EBIT/TA (X3)	NET INCOME/TA (ROA)
Tw 1	15202709-6395774	8806935/36269321	1059482/36269321	684182/36269321
Tw 2	20891814-5896406	14995408/38251696	2194157/38251696	1387392/38251696
Tw 3	25413717-7339979	18073738/43511837	3434402/43511837	2155553/43511837
Tw 4	27624759-7065558	20559201/48671950	5056218/48671950	3247516/48671950
2012	AL/HL	WC/TA (X1)	EBIT/TA (X3)	NET INCOME/TA (ROA)
Tw 1	28291548-8056097	20235451/49616835	1403164/49616835	912718/49616835
Tw 2	30504396-7333368	23171028/49703905	2853012/49703905	1857410/49703905
Tw 3	32452071-8562518	23889553/51203659	4343940/51203659	2868262/51203659
Tw 4	35124756-9593172	25531584/54229396	6055278/54229396	4088120/54229396

2013	AL/HL	WC/TA (X1)	EBIT/TA (X3)	NET INCOME/TA (ROA)
Tw 1	36446155-8330094	28116061/55479062	1562465/55479062	1082479/55479062
Tw 2	38029826-9683926	28345900/58483564	3289678/58483564	2301341/58483564
Tw 3	39785244-9605756	30179488/61810295	4981557/61810295	3471273/61810295
Tw 4	40593144-11350744	29242400/63965361	6776206/63965361	4647564/63965361
2014	AL/HL	WC/TA (X1)	EBIT/TA (X3)	NET INCOME/TA (ROA)
Tw 1	39961948-48520263	-8558315/63009396	1694558/63009396	1092929/63009396
Tw 2	40062387-58511607	-18449220/62786572	3393104/62786572	2148262/62786572
Tw 3	39451015-58763409	-19312394/65368281	4084650/65368281	3214660/65368281
Tw 4	39745355-58959342	-19213987/66942422	5851461/66942422	4348988/66942422
2015	AL/HL	WC/TA (X1)	EBIT/TA (X3)	NET INCOME/TA (ROA)
Tw 1	39026356-10469019	28557337/67151521	1809274/67151521	1155358/67151521
Tw 2	52398488-10605548	41792940/66953689	4144031/66953689	1590933/66953689
Tw 3	52728160-9290613	43437547/67120476	6379502/67120476	2595360/67120476
Tw 4	53504114-10201003	43303111/70369709	8591524/70369709	3606798/70369709
2016	AL/HL	WC/TA (X1)	EBIT/TA (X3)	NET INCOME/TA (ROA)
Tw 1	52723525-9926195	42797330/71548944	2198921/71548944	976379/71548944
Tw 2	54504023-11375516	43128507/72022855	4349677/72022855	1987715/72022855
Tw 3	55198756-10761797	44436959/74241902	6567965/74241902	3052821/74241902
Tw 4	56272984-11544938	44728046/78831722	9011112/78831722	4243724/78831722
2017	AL/HL	WC/TA (X1)	EBIT/TA (X3)	NET INCOME/TA (ROA)
Tw 1	56545087-12296631	44248456/80012307	2388496/80012307	1135178/80012307
Tw 2	57338789-14198907	43139882/81901309	4864204/81901309	2385566/81901309
Tw 3	57079520-13886468	43193052/84087348	7446942/84087348	3642902/84087348
Tw 4	58554408-13976724	44577684/87939774	10072047/87939774	4914787/87939774
2018	AL/HL	WC/TA (X1)	EBIT/TA (X3)	NET INCOME/TA (ROA)

Tw 1	59664692-14597960	45066732/92976854	1852068/92976854	1234259/92976854
Tw 2	61484463-16402954	45081509/92813105	3785198/92813105	2522981/92813105
Tw 3	62204834-14156490	48048344/93347112	8914084/93347112	3.888.201/93347112
Tw 4	64785790-15285872	49499918/98341116	10673119/98341116	5279393/98341116

Tahap 2:

Model Grover tahun	TW	Dalam Jutaan Rupiah		
		WC/TA(X1*1,650)	EBIT/TA(X3*3,404)	NET INCOME/TA (ROA*0,016)
Model Grover tahun 2008	Triwulan 1	0.250655769	0.040266651	0.022229042
	Triwulan 2	0.195432578	0.070215538	0.039110242
	Triwulan 3	0.272872634	0.106770762	0.059674776
	Triwulan 4	0.296296518	0.141159132	0.077052723
Tahun 2009	Triwulan 1	0.284403931	0.035353776	0.018016124
	Triwulan 2	0.269086827	0.069532747	0.03623444
	Triwulan 3	0.270701022	0.103945039	0.056291006
	Triwulan 4	0.269259527	0.128776416	0.070962154
tahun 2010	Triwulan 1	0.306490919	0.030222288	0.019800036
	Triwulan 2	0.185269717	0.057294427	0.03699895
	Triwulan 3	0.322956625	0.084823033	0.054751974
	Triwulan 4	0.309725458	0.106101702	0.069499348
Tahun 2011	Triwulan 1	0.242820509	0.02921152	0.018863932
	Triwulan 2	0.392019428	0.057361038	0.036270078
	Triwulan 3	0.4153752	0.078930292	0.049539462
	Triwulan 4	0.422403479	0.103883613	0.066722537
Tahun 2012	Triwulan 1	0.407834377	0.028279998	0.018395329
	Triwulan 2	0.466181239	0.057400158	0.037369498
	Triwulan 3	0.466559489	0.084836515	0.056016739

tahun 2013	Triwulan 4	0.470807088	0.111660436	0.075385682
	Triwulan 1	0.506786885	0.028163147	0.019511487
	Triwulan 2	0.484681474	0.056249616	0.039350218
	Triwulan 3	0.488259893	0.080594293	0.056160111
	Triwulan 4	0.457159931	0.105935555	0.072657512
Tahun 2014	Triwulan 1	-0.135826012	0.026893735	0.017345492
	Triwulan 2	-0.293840218	0.054041874	0.03421531
	Triwulan 3	-0.295439833	0.062486728	0.049177674
	Triwulan 4	-0.287022585	0.087410357	0.064966099
Tahun 2015	Triwulan 1	0.425267166	0.026943157	0.017205239
	Triwulan 2	0.624206681	0.061893991	0.023761693
	Triwulan 3	0.647157911	0.095045542	0.038667187
	Triwulan 4	0.615365782	0.122091225	0.05125498
Tahun 2016	Triwulan 1	0.5981546	0.030733102	0.013646309
	Triwulan 2	0.598816959	0.06039301	0.027598392
	Triwulan 3	0.598542842	0.08846709	0.041119919
	Triwulan 4	0.567386388	0.114308197	0.053832694
Tahun 2017	Triwulan 1	0.553020625	0.039063985	0.014187542
	Triwulan 2	0.526730067	0.059391041	0.029127324
	Triwulan 3	0.513668858	0.08856198	0.043322831
	Triwulan 4	0.506911514	0.114533465	0.055888101
tahun 2018	Triwulan 1	0.484709151	0.019919667	0.013274906
	Triwulan 2	0.48572353	0.040783012	0.027183456
	Triwulan 3	0.514727697	0.095493945	0.041653147
	Triwulan 4	0.503349159	0.108531603	0.053684493

Tahun 2014	Triwulan 1	-0.22411292	0.091546274	0.000277528	0.057	-0.075289118	B	1
	Triwulan 2	-0.48483636	0.183958538	0.000547445	0.057	-0.243330376	B	1
	Triwulan 3	-0.487475724	0.212704822	0.000786843	0.057	-0.216984059	B	1
	Triwulan 4	-0.473587265	0.297544855	0.001039458	0.057	-0.118002953	B	1
Tahun 2015	Triwulan 1	0.701690823	0.091714508	0.000275284	0.057	0.850680615	TB	0
	Triwulan 2	1.029941024	0.210687144	0.000380187	0.057	1.298008355	TB	0
	Triwulan 3	1.067810552	0.323535024	0.000618675	0.057	1.448964251	TB	0
	Triwulan 4	1.01535354	0.415598531	0.000820008	0.057	1.488772151	TB	0
Tahun 2016	Triwulan 1	0.98695509	0.104615479	0.000218341	0.057	1.148788911	TB	0
	Triwulan 2	0.988047982	0.205577806	0.000441574	0.057	1.251067362	TB	0
	Triwulan 3	0.987595689	0.301141973	0.000657919	0.057	1.346395581	TB	0
	Triwulan 4	0.93618754	0.389105102	0.000861323	0.057	1.383153965	TB	0
Tahun 2017	Triwulan 1	0.912484031	0.132973804	0.000227001	0.057	1.102684836	TB	0
	Triwulan 2	0.869104611	0.202167104	0.000466037	0.057	1.128737752	TB	0
	Triwulan 3	0.847553615	0.301464979	0.000693165	0.057	1.206711759	TB	0
	Triwulan 4	0.836403998	0.389871914	0.00089421	0.057	1.284170122	TB	0
Tahun 2018	Triwulan 1	0.7997701	0.067806548	0.000212398	0.057	0.924789046	TB	0
	Triwulan 2	0.801443825	0.138825374	0.000434935	0.057	0.997704134	TB	0
	Triwulan 3	0.8493007	0.32506139	0.00066645	0.057	1.23202854	TB	0
	Triwulan 4	0.830526112	0.369441578	0.000858952	0.057	1.257826642	TB	0