

Logistic Regression

Case Processing Summary

Unweighted Cases ^a		N	Percent
Selected Cases	Included in Analysis	816	100.0
	Missing Cases	0	.0
	Total	816	100.0
Unselected Cases		0	.0
Total		816	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
0	0
1	1

Block 0: Beginning Block

Classification Table^{a,b}

Observed			Predicted		Percentage Correct
			fourth_down_converted 0	1	
Step 0	fourth_down_converted	0	0	350	.0
		1	0	466	100.0
	Overall Percentage				57.1

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.286	.071	16.378	1	<.001	1.331

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	week	.378	1	.539
		is_home_team	.941	1	.332
		is_postseason	.300	1	.584
		yardline_100	3.175	1	.075
		game_seconds_remaining	7.905	1	.005
		goal_to_go	1.054	1	.304
		ydstogo	78.369	1	<.001
		posteam_timeouts_remaining	4.440	1	.035
		defteam_timeouts_remaining	2.278	1	.131
		score_differential	9.212	1	.002
		div_game	.490	1	.484
		is_dome_game	.330	1	.566
		Net_DVOA	.159	1	.690
		Overall Statistics	83.396	13	<.001

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	91.614	13	<.001
	Block	91.614	13	<.001
	Model	91.614	13	<.001

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	1023.056 ^a	.106	.143

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	5.526	8	.700

Contingency Table for Hosmer and Lemeshow Test

		fourth_down_converted = 0		fourth_down_converted = 1		Total
		Observed	Expected	Observed	Expected	
Step 1	1	61	66.001	21	15.999	82
	2	53	49.648	29	32.352	82
	3	40	40.155	42	41.845	82
	4	39	34.851	43	47.149	82
	5	36	31.733	46	50.267	82
	6	30	29.186	52	52.814	82
	7	24	27.527	58	54.473	82
	8	25	25.903	57	56.097	82
	9	24	24.405	58	57.595	82
	10	18	20.591	60	57.409	78

Classification Table^a

			Predicted		Percentage Correct
			fourth_down_converted 0	1	
Step 1	fourth_down_converted	0	130	220	37.1
		1	60	406	87.1
	Overall Percentage				65.7

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.
Step 1 ^a	week	.003	.015	.050	1	.823
	is_home_team	.122	.152	.643	1	.423
	is_postseason	.259	.360	.518	1	.472
	yardline_100	.000	.004	.009	1	.925
	game_seconds_remaining	.000	.000	.447	1	.504
	goal_to_go	-.321	.309	1.082	1	.298
	ydstogo	-.199	.027	52.614	1	<.001
	posteam_timeouts_remaining	.013	.091	.022	1	.883
	defteam_timeouts_remaining	-.068	.102	.452	1	.501
	score_differential	.003	.007	.149	1	.700
	div_game	.144	.167	.748	1	.387
	is_dome_game	-.107	.156	.470	1	.493
	Net_DVOA	.030	.441	.005	1	.946
	Constant	1.162	.388	8.983	1	.003

Variables in the Equation

		Exp(B)
Step 1 ^a	week	1.003
	is_home_team	1.129
	is_postseason	1.296
	yardline_100	1.000
	game_seconds_remaining	1.000
	goal_to_go	.725
	ydstogo	.820
	posteam_timeouts_remainin g	1.013
	defteam_timeouts_remaining	.934
	score_differential	1.003
	div_game	1.155
	is_dome_game	.898
	Net_DVOA	1.030
	Constant	3.195

a. Variable(s) entered on step 1: week, is_home_team, is_postseason, yardline_100, game_seconds_remaining, goal_to_go, ydstogo, posteam_timeouts_remaining, defteam_timeouts_remaining, score_differential, div_game, is_dome_game, Net_DVOA.

Block 2: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	24.233	4	<.001
	Block	24.233	4	<.001
	Model	115.848	17	<.001

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	998.822 ^a	.132	.178

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	8.049	8	.429

Contingency Table for Hosmer and Lemeshow Test

		fourth_down_converted = 0		fourth_down_converted = 1		Total
		Observed	Expected	Observed	Expected	
Step 1	1	62	65.108	20	16.892	82
	2	57	50.811	25	31.189	82
	3	46	43.967	36	38.033	82
	4	37	39.886	45	42.114	82
	5	41	36.525	41	45.475	82
	6	24	31.858	58	50.142	82
	7	25	25.063	57	56.937	82
	8	22	22.367	60	59.633	82
	9	19	19.889	63	62.111	82
	10	17	14.526	61	63.474	78

Classification Table^a

		Predicted		Percentage Correct
		fourth_down_converted = 0	fourth_down_converted = 1	
Step 1	Observed			
	fourth_down_converted = 0	170	180	48.6
	fourth_down_converted = 1	90	376	80.7
Overall Percentage				66.9

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.
Step 1 ^a	week	.012	.015	.619	1	.432
	is_home_team	.102	.155	.432	1	.511
	is_postseason	-.011	.373	.001	1	.977
	yardline_100	-.002	.005	.169	1	.681
	game_seconds_remaining	.000	.000	.481	1	.488
	goal_to_go	-.201	.314	.411	1	.522
	ydstogo	-.159	.029	31.265	1	<.001
	posteam_timeouts_remaining	.001	.092	.000	1	.988
	defteam_timeouts_remaining	-.051	.103	.242	1	.623
	score_differential	.000	.008	.000	1	.992
	div_game	.075	.170	.193	1	.660
	is_dome_game	-.107	.160	.452	1	.502
	Net_DVOA	.032	.449	.005	1	.943
	is_pass	-.864	.216	15.950	1	<.001
	shotgun	.244	.227	1.149	1	.284
	no_huddle	.575	.248	5.354	1	.021
	is_outside	.042	.161	.069	1	.793
	Constant	1.273	.424	9.001	1	.003

Variables in the Equation

		Exp(B)
Step 1 ^a	week	1.012
	is_home_team	1.107
	is_postseason	.989
	yardline_100	.998
	game_seconds_remaining	1.000
	goal_to_go	.818
	ydstogo	.853
	posteam_timeouts_remaining	1.001
	defteam_timeouts_remaining	.951
	score_differential	1.000
	div_game	1.078
	is_dome_game	.898
	Net_DVOA	1.033
	is_pass	.421
	shotgun	1.276
	no_huddle	1.777
	is_outside	1.043
	Constant	3.571

a. Variable(s) entered on step 1: is_pass, shotgun, no_huddle, is_outside.