

## TWO GROUP DISCRIMINANT ANALYSIS

### Discriminant

#### Warnings

All-Groups Stacked Histogram is no longer displayed.

#### Analysis Case Processing Summary

Unweighted Cases		N	Percent
Valid		60	60.0
Excluded	Missing or out-of-range group codes	0	.0
	At least one missing discriminating variable	0	.0
	Both missing or out-of-range group codes and at least one missing discriminating variable	0	.0
Unselected		40	40.0
Total		40	40.0
Total		100	100.0

TWO GROUP DISCRIMINANT ANALYSIS

Group Statistics

X4 - Region		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
USA/North America	X6 - Product Quality	8.527	.8633	26	26.000
	X7 - E-Commerce Activities	3.388	.5645	26	26.000
	X8 - Technical Support	5.569	1.5859	26	26.000
	X9 - Complaint Resolution	5.577	1.1981	26	26.000
	X10 - Advertising	3.727	1.0106	26	26.000
	X11 - Product Line	6.785	.8974	26	26.000
	X12 - Salesforce Image	4.427	.9698	26	26.000
	X13 - Competitive Pricing	5.600	1.0331	26	26.000
	X14 - Warranty & Claims	6.050	.7654	26	26.000
	X15 - New Products	4.954	1.4986	26	26.000
	X16 - Order & Billing	4.231	.7760	26	26.000
	X17 - Price Flexibility	3.631	.5992	26	26.000
	X18 - Delivery Speed	3.873	.6983	26	26.000
Outside North America	X6 - Product Quality	7.297	1.4690	34	34.000
	X7 - E-Commerce Activities	3.626	.6877	34	34.000
	X8 - Technical Support	5.050	1.5695	34	34.000
	X9 - Complaint Resolution	5.253	1.4540	34	34.000
	X10 - Advertising	3.979	1.1643	34	34.000
	X11 - Product Line	5.274	1.3072	34	34.000
	X12 - Salesforce Image	5.238	1.0192	34	34.000
	X13 - Competitive Pricing	7.418	1.3659	34	34.000
	X14 - Warranty & Claims	5.918	.7461	34	34.000
	X15 - New Products	5.276	1.6717	34	34.000
	X16 - Order & Billing	4.153	1.1605	34	34.000
	X17 - Price Flexibility	4.932	1.0545	34	34.000
	X18 - Delivery Speed	3.794	.8326	34	34.000
Total	X6 - Product Quality	7.830	1.3786	60	60.000
	X7 - E-Commerce Activities	3.523	.6432	60	60.000
	X8 - Technical Support	5.275	1.5845	60	60.000
	X9 - Complaint Resolution	5.393	1.3479	60	60.000
	X10 - Advertising	3.870	1.0986	60	60.000
	X11 - Product Line	5.928	1.3664	60	60.000
	X12 - Salesforce Image	4.887	1.0695	60	60.000
	X13 - Competitive Pricing	6.630	1.5234	60	60.000
	X14 - Warranty & Claims	5.975	.7510	60	60.000
	X15 - New Products	5.137	1.5939	60	60.000
	X16 - Order & Billing	4.187	1.0050	60	60.000
	X17 - Price Flexibility	4.368	1.0941	60	60.000
	X18 - Delivery Speed	3.828	.7720	60	60.000

## TWO GROUP DISCRIMINANT ANALYSIS

### Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
X6 - Product Quality	.801	14.387	1	58	.000
X7 - E-Commerce Activities	.966	2.054	1	58	.157
X8 - Technical Support	.973	1.598	1	58	.211
X9 - Complaint Resolution	.986	.849	1	58	.361
X10 - Advertising	.987	.775	1	58	.382
X11 - Product Line	.695	25.500	1	58	.000
X12 - Salesforce Image	.856	9.733	1	58	.003
X13 - Competitive Pricing	.645	31.992	1	58	.000
X14 - Warranty & Claims	.992	.453	1	58	.503
X15 - New Products	.990	.600	1	58	.442
X16 - Order & Billing	.999	.087	1	58	.769
X17 - Price Flexibility	.647	31.699	1	58	.000
X18 - Delivery Speed	.997	.152	1	58	.698

## Analysis 1

### Box's Test of Equality of Covariance Matrices

#### Log Determinants

X4 - Region	Rank	Log Determinant
USA/North America	3	-1.291
Outside North America	3	.962
Pooled within-groups	3	.293

The ranks and natural logarithms of determinants printed are those of the group covariance matrices.

#### Test Results

Box's M	17.526
F	Approx. 2.752
	df1 6
	df2 20134.24
	Sig. .011

Tests null hypothesis of equal population covariance matrices.

## Stepwise Statistics

TWO GROUP DISCRIMINANT ANALYSIS

Variables Entered/Removed<sup>a,b,c,d</sup>

Step	Entered	Min. D Squared					
		Statistic	Between Groups	Exact F			
				Statistic	df1	df2	Sig.
1	X13 - Competitive Pricing	2.171	USA/North America and Outside North America	31.992	1	58.000	4.991E-07
2	X17 - Price Flexibility	4.300	USA/North America and Outside North America	31.129	2	57.000	7.286E-10
3	X11 - Product Line	5.045	USA/North America and Outside North America	23.923	3	56.000	4.281E-10

At each step, the variable that maximizes the Mahalanobis distance between the two closest groups is entered.

- a. Maximum number of steps is 26.
- b. Minimum partial F to enter is 3.84.
- c. Maximum partial F to remove is 2.71.
- d. F level, tolerance, or VIN insufficient for further computation.

TWO GROUP DISCRIMINANT ANALYSIS

**Variables in the Analysis**

Step		Tolerance	F to Remove	Min. D Squared	Between Groups
1	X13 - Competitive Pricing	1.000	31.992		
2	X13 - Competitive Pricing	1.000	20.113	2.152	USA/North America and Outside North America
	X17 - Price Flexibility	1.000	19.863	2.171	USA/North America and Outside North America
3	X13 - Competitive Pricing	.849	7.258	4.015	USA/North America and Outside North America
	X17 - Price Flexibility	.999	18.416	2.822	USA/North America and Outside North America
	X11 - Product Line	.848	5.068	4.300	USA/North America and Outside North America

**Variables Not in the Analysis**

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
0	X6 - Product Quality	1.000	1.000	14.387	.976	USA/North America and Outside North America
	X7 - E-Commerce Activities	1.000	1.000	2.054	.139	USA/North America and Outside North America
	X8 - Technical Support	1.000	1.000	1.598	.108	USA/North America and Outside North America

TWO GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
0	X9 - Complaint Resolution	1.000	1.000	.849	.058	USA/North America and Outside North America
	X10 - Advertising	1.000	1.000	.775	.053	USA/North America and Outside North America
	X11 - Product Line	1.000	1.000	25.500	1.731	USA/North America and Outside North America
	X12 - Salesforce Image	1.000	1.000	9.733	.661	USA/North America and Outside North America
	X13 - Competitive Pricing	1.000	1.000	31.992	2.171	USA/North America and Outside North America
	X14 - Warranty & Claims	1.000	1.000	.453	.031	USA/North America and Outside North America
	X15 - New Products	1.000	1.000	.600	.041	USA/North America and Outside North America
	X16 - Order & Billing	1.000	1.000	.087	.006	USA/North America and Outside North America
	X17 - Price Flexibility	1.000	1.000	31.699	2.152	USA/North America and Outside North America

TWO GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
0	X18 - Delivery Speed	1.000	1.000	.152	.010	USA/North America and Outside North America
1	X6 - Product Quality	.965	.965	4.926	2.699	USA/North America and Outside North America
	X7 - E-Commerce Activities	.917	.917	.026	2.174	USA/North America and Outside North America
	X8 - Technical Support	.966	.966	.033	2.175	USA/North America and Outside North America
	X9 - Complaint Resolution	.844	.844	1.292	2.310	USA/North America and Outside North America
	X10 - Advertising	.992	.992	.088	2.181	USA/North America and Outside North America
	X11 - Product Line	.849	.849	6.076	2.822	USA/North America and Outside North America
	X12 - Salesforce Image	.987	.987	3.949	2.595	USA/North America and Outside North America
	X14 - Warranty & Claims	.918	.918	.617	2.237	USA/North America and Outside North America

TWO GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
1	X15 - New Products	1.000	1.000	.455	2.220	USA/North America and Outside North America
	X16 - Order & Billing	.836	.836	3.022	2.495	USA/North America and Outside North America
	X17 - Price Flexibility	1.000	1.000	19.863	4.300	USA/North America and Outside North America
	X18 - Delivery Speed	.910	.910	1.196	2.300	USA/North America and Outside North America



TWO GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
2	X6 - Product Quality	.884	.884	.681	4.400	USA/North America and Outside North America
	X7 - E-Commerce Activities	.804	.804	2.486	4.665	USA/North America and Outside North America
	X8 - Technical Support	.966	.966	.052	4.308	USA/North America and Outside North America
	X9 - Complaint Resolution	.610	.610	1.479	4.517	USA/North America and Outside North America
	X10 - Advertising	.901	.901	.881	4.429	USA/North America and Outside North America
	X11 - Product Line	.848	.848	5.068	5.045	USA/North America and Outside North America
	X12 - Salesforce Image	.944	.944	.849	4.425	USA/North America and Outside North America
	X14 - Warranty & Claims	.916	.916	.759	4.411	USA/North America and Outside North America
	X15 - New Products	.986	.986	.017	4.302	USA/North America and Outside North America

TWO GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
2	X16 - Order & Billing	.625	.625	.245	4.336	USA/North America and Outside North America
	X18 - Delivery Speed	.519	.519	4.261	4.927	USA/North America and Outside North America

TWO GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
3	X6 - Product Quality	.802	.769	.019	5.048	USA/North America and Outside North America
	X7 - E-Commerce Activities	.801	.791	2.672	5.482	USA/North America and Outside North America
	X8 - Technical Support	.961	.832	.004	5.046	USA/North America and Outside North America
	X9 - Complaint Resolution	.233	.233	.719	5.163	USA/North America and Outside North America
	X10 - Advertising	.900	.840	.636	5.149	USA/North America and Outside North America
	X12 - Salesforce Image	.931	.829	1.294	5.257	USA/North America and Outside North America
	X14 - Warranty & Claims	.836	.775	2.318	5.424	USA/North America and Outside North America
	X15 - New Products	.981	.844	.076	5.058	USA/North America and Outside North America

TWO GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
3	X16 - Order & Billing	.400	.400	1.025	5.213	USA/North America and Outside North America
	X18 - Delivery Speed	.031	.031	.208	5.079	USA/North America and Outside North America

Wilks' Lambda

Step	Number of Variables	Lambda	df1	df2	df3
1	1	.645	1	1	58
2	2	.478	2	1	58
3	3	.438	3	1	58

Wilks' Lambda

Step	Exact F			
	Statistic	df1	df2	Sig.
1	31.992	1	58.000	.000
2	31.129	2	57.000	.000
3	23.923	3	56.000	.000

Pairwise Group Comparisons<sup>a,b,c</sup>

Step	X4 - Region		USA/North America	Outside North America
1	USA/North America	F		31.992
		Sig.		.000
	Outside North America	F	31.992	
		Sig.	.000	
2	USA/North America	F		31.129
		Sig.		.000
	Outside North America	F	31.129	
		Sig.	.000	
3	USA/North America	F		23.923
		Sig.		.000
	Outside North America	F	23.923	
		Sig.	.000	

- a. 1, 58 degrees of freedom for step 1.
- b. 2, 57 degrees of freedom for step 2.
- c. 3, 56 degrees of freedom for step 3.

## Summary of Canonical Discriminant Functions

### Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	1.282 <sup>a</sup>	100.0	100.0	.749

a. First 1 canonical discriminant functions were used in the analysis.

### Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	.438	46.606	3	.000

### Standardized Canonical Discriminant Function Coefficients

	Function
	1
X11 - Product Line	-.417
X13 - Competitive Pricing	.490
X17 - Price Flexibility	.664

### Structure Matrix

	Function
	1
X13 - Competitive Pricing	.656
X17 - Price Flexibility	.653
X11 - Product Line	-.586
X7 - E-Commerce Activities	.429
X6 - Product Quality <sup>a</sup>	-.418
X14 - Warranty & Claims <sup>a</sup>	-.329
X10 - Advertising <sup>a</sup>	.238
X9 - Complaint Resolution	-.181
X12 - Salesforce Image <sup>a</sup>	.164
X16 - Order & Billing <sup>a</sup>	-.149
X8 - Technical Support <sup>a</sup>	-.136
X18 - Delivery Speed <sup>a</sup>	-.060
X15 - New Products <sup>a</sup>	.041

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions

Variables ordered by absolute size of correlation within function.

a. This variable not used in the analysis.

## TWO GROUP DISCRIMINANT ANALYSIS

### Canonical Discriminant Function Coefficients

	Function
	1
X11 - Product Line	-.363
X13 - Competitive Pricing	.398
X17 - Price Flexibility	.749
(Constant)	-3.752

Unstandardized coefficients

### Functions at Group Centroids

	Function
	1
USA/North America	-1.273
Outside North America	.973

Unstandardized canonical discriminant functions evaluated at group means

## Classification Statistics

### Classification Processing Summary

Processed		100
Excluded	Missing or out-of-range group codes	0
	At least one missing discriminating variable	0
Used in Output		100

### Prior Probabilities for Groups

	Prior	Cases Used in Analysis	
		Unweighted	Weighted
USA/North America	.433	26	26.000
Outside North America	.567	34	34.000
Total	1.000	60	60.000

### Classification Function Coefficients

	X4 - Region	
	USA/North America	Outside North America
X11 - Product Line	7.725	6.909
X13 - Competitive Pricing	6.456	7.349
X17 - Price Flexibility	4.231	5.912
(Constant)	-52.800	-60.623

Fisher's linear discriminant functions

TWO GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

	Case Number	Actual Group	Highest Group
			Predicted Group
Original	1	1	1
	2	0	0
	3	1	0**
	4	1	1
	5	0	0
	6	1	1
	7	1	1
	8	1	1
	9	1	1
	10	0	0
	11	1	1
	12	0	0
	13	1	1
	14	0	0
	15	1	1
	16	1	1
	17	1	0**
	18	0	0
	19	0	0
	20	1	1
	21	0	0
	22	1	0**
	23	1	1
	24	1	1
	25	0	0
	26	0	0
	27	1	1
	28	0	1**
	29	1	1
	30	0	0
	31	1	1
	32	0	0
	33	1	1
	34	1	0**
	35	0	0
	36	0	0
	37	1	0**
	38	0	0
	39	0	0
	40	0	0
	41	1	1
	42	0	0
	43	0	0
	44	1	0**
	45	1	1

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

TWO GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

	Case Number	Actual Group	Highest Group
			Predicted Group
Original	46	1	1
	47	1	1
	48	1	1
	49	0	0
	50	0	0
	51	1	1
	52	0	0
	53	1	1
	54	1	1
	55	0	0
	56	1	1
	57	1	0**
	58	0	0
	59	0	0
	60	1	1
	61 <sup>u</sup>	1	1
	62 <sup>u</sup>	0	1**
	63 <sup>u</sup>	1	1
	64 <sup>u</sup>	1	1
	65 <sup>u</sup>	1	1
	66 <sup>u</sup>	1	0**
	67 <sup>u</sup>	0	0
	68 <sup>u</sup>	1	1
	69 <sup>u</sup>	1	1
	70 <sup>u</sup>	1	1
	71 <sup>u</sup>	1	1
	72 <sup>u</sup>	1	1
	73 <sup>u</sup>	1	1
	74 <sup>u</sup>	1	1
	75 <sup>u</sup>	0	1**
	76 <sup>u</sup>	1	1
	77 <sup>u</sup>	1	1
	78 <sup>u</sup>	1	1
	79 <sup>u</sup>	0	0
	80 <sup>u</sup>	1	1
	81 <sup>u</sup>	1	1
	82 <sup>u</sup>	1	1
	83 <sup>u</sup>	1	1
	84 <sup>u</sup>	1	1
	85 <sup>u</sup>	1	0**
	86 <sup>u</sup>	1	1
	87 <sup>u</sup>	0	0
	88 <sup>u</sup>	1	1
	89 <sup>u</sup>	0	1**
	90 <sup>u</sup>	0	0

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.



TWO GROUP DISCRIMINANT ANALYSIS

**Casewise Statistics**

			Highest Group
Case Number		Actual Group	Predicted Group
Original	91 <sup>u</sup>	0	0
	92 <sup>u</sup>	1	1
	93 <sup>u</sup>	0	0
	94 <sup>u</sup>	0	1**
	95 <sup>u</sup>	1	1
	96 <sup>u</sup>	0	0
	97 <sup>u</sup>	0	0
	98 <sup>u</sup>	0	0
	99 <sup>u</sup>	1	1
	100 <sup>u</sup>	1	1

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

TWO GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

	Case Number	Actual Group	Highest Group
			Predicted Group
Cross-validated <sup>a</sup>	1	1	1
	2	0	0
	3	1	0**
	4	1	1
	5	0	0
	6	1	1
	7	1	1
	8	1	1
	9	1	1
	10	0	0
	11	1	1
	12	0	0
	13	1	1
	14	0	0
	15	1	1
	16	1	1
	17	1	0**
	18	0	0
	19	0	0
	20	1	1
	21	0	0
	22	1	0**
	23	1	1
	24	1	1
	25	0	0
	26	0	0
	27	1	1
	28	0	1**
	29	1	1
	30	0	0
	31	1	1
	32	0	0
	33	1	1
	34	1	0**
	35	0	0
	36	0	0
	37	1	0**
	38	0	0
	39	0	0
	40	0	0
	41	1	1
	42	0	0
	43	0	1**
	44	1	0**
	45	1	1

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

TWO GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

			Highest Group
Case Number		Actual Group	Predicted Group
Cross-validated <sup>a</sup>	46	1	1
	47	1	1
	48	1	1
	49	0	0
	50	0	0
	51	1	0**
	52	0	0
	53	1	1
	54	1	1
	55	0	0
	56	1	1
	57	1	0**
	58	0	0
	59	0	0
	60	1	1

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

TWO GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

Case Number		Highest Group			
		P(D>d   G=g)		P(G=g   D=d)	Squared Mahalanobis Distance to Centroid
		p	df		
Original	1	.988	1	.944	.000
	2	.981	1	.909	.001
	3	.701	1	.958	.148
	4	.893	1	.957	.018
	5	.506	1	.682	.441
	6	.542	1	.985	.372
	7	.262	1	.995	1.258
	8	.154	1	.998	2.034
	9	.376	1	.992	.783
	10	.601	1	.746	.274
	11	.432	1	.990	.618
	12	.446	1	.981	.581
	13	.345	1	.993	.891
	14	.656	1	.963	.199
	15	.702	1	.975	.146
	16	.209	1	.996	1.575
	17	.507	1	.682	.440
	18	.626	1	.966	.238
	19	.626	1	.966	.238
	20	.354	1	.992	.860
	21	.474	1	.979	.513
	22	.362	1	.551	.832
	23	.654	1	.978	.201
	24	.898	1	.924	.017
	25	.766	1	.949	.089
	26	.506	1	.682	.441
	27	.309	1	.623	1.037
	28	.461	1	.757	.544
	29	.708	1	.974	.140
	30	.948	1	.917	.004
	31	.528	1	.985	.398
	32	.949	1	.892	.004
	33	.054	1	.999	3.719
	34	.821	1	.851	.051
	35	.979	1	.900	.001
	36	.981	1	.909	.001
	37	.414	1	.604	.667
	38	.474	1	.979	.513
	39	.594	1	.742	.284
	40	.835	1	.938	.043
	41	.309	1	.624	1.036
	42	.656	1	.963	.199
	43	.374	1	.564	.790
	44	.549	1	.713	.359
	45	.381	1	.695	.766

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

TWO GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

	Case Number	Highest Group			
		P(D>d   G=g)		P(G=g   D=d)	Squared Mahalanobis Distance to Centroid
		p	df		
Original	46	.702	1	.975	.146
	47	.880	1	.958	.023
	48	.396	1	.991	.721
	49	.404	1	.984	.696
	50	.759	1	.950	.094
	51	.263	1	.568	1.255
	52	.586	1	.737	.296
	53	.396	1	.991	.721
	54	.547	1	.984	.363
	55	.865	1	.867	.029
	56	.314	1	.994	1.013
	57	.759	1	.950	.094
	58	.594	1	.742	.284
	59	.766	1	.949	.089
	60	.099	1	.998	2.715
	61 <sup>u</sup>	.163	1	.997	1.946
	62 <sup>u</sup>	.400	1	.711	.709
	63 <sup>u</sup>	.528	1	.985	.398
	64 <sup>u</sup>	.189	1	.997	1.724
	65 <sup>u</sup>	.471	1	.988	.519
	66 <sup>u</sup>	.144	1	.996	2.132
	67 <sup>u</sup>	.265	1	.992	1.244
	68 <sup>u</sup>	.619	1	.980	.247
	69 <sup>u</sup>	.105	1	.998	2.628
	70 <sup>u</sup>	.317	1	.994	1.003
	71 <sup>u</sup>	.045	1	.999	4.012
	72 <sup>u</sup>	.025	1	1.000	5.008
	73 <sup>u</sup>	.432	1	.990	.618
	74 <sup>u</sup>	.118	1	.998	2.444
	75 <sup>u</sup>	.735	1	.884	.115
	76 <sup>u</sup>	.381	1	.695	.766
	77 <sup>u</sup>	.045	1	.999	4.012
	78 <sup>u</sup>	.180	1	.997	1.799
	79 <sup>u</sup>	.949	1	.892	.004
	80 <sup>u</sup>	.979	1	.939	.001
	81 <sup>u</sup>	.054	1	.999	3.719
	82 <sup>u</sup>	.105	1	.998	2.628
	83 <sup>u</sup>	.209	1	.996	1.575
	84 <sup>u</sup>	.524	1	.986	.405
	85 <sup>u</sup>	.821	1	.851	.051
	86 <sup>u</sup>	.988	1	.944	.000
	87 <sup>u</sup>	.586	1	.737	.296
	88 <sup>u</sup>	.375	1	.992	.787
	89 <sup>u</sup>	.735	1	.884	.115
	90 <sup>u</sup>	.601	1	.746	.274

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

TWO GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

		Highest Group			
		P(D>d   G=g)		P(G=g   D=d)	Squared Mahalanobis Distance to Centroid
		p	df		
Original	Case Number				
	91 <sup>u</sup>	.813	1	.848	.056
	92 <sup>u</sup>	.741	1	.972	.109
	93 <sup>u</sup>	.865	1	.867	.029
	94 <sup>u</sup>	.646	1	.853	.211
	95 <sup>u</sup>	.469	1	.988	.524
	96 <sup>u</sup>	.704	1	.802	.144
	97 <sup>u</sup>	.446	1	.981	.581
	98 <sup>u</sup>	.484	1	.664	.489
	99 <sup>u</sup>	.465	1	.988	.534
	100 <sup>u</sup>	.874	1	.959	.025

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

TWO GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

Case Number	Highest Group			
	P(D>d   G=g)		P(G=g   D=d)	Squared Mahalanobis Distance to Centroid
	p	df		
Cross-validated <sup>a</sup>				
1	.885	3	.941	.648
2	.655	3	.901	1.618
3	.786	3	.980	1.062
4	.507	3	.952	2.330
5	.761	3	.666	1.166
6	.752	3	.984	1.206
7	.033	3	.996	8.752
8	.078	3	.998	6.829
9	.523	3	.991	2.247
10	.747	3	.731	1.226
11	.667	3	.989	1.568
12	.032	3	.979	8.771
13	.046	3	.993	7.991
14	.803	3	.960	.993
15	.332	3	.972	3.418
16	.445	3	.996	2.673
17	.734	3	.723	1.281
18	.861	3	.964	.752
19	.861	3	.964	.752
20	.696	3	.992	1.442
21	.673	3	.978	1.542
22	.533	3	.597	2.193
23	.426	3	.976	2.784
24	.688	3	.918	1.477
25	.766	3	.945	1.146
26	.761	3	.666	1.166
27	.073	3	.520	6.975
28	.636	3	.799	1.704
29	.200	3	.971	4.637
30	.777	3	.910	1.098
31	.281	3	.984	3.823
32	.064	3	.856	7.245
33	.024	3	1.000	9.483
34	.706	3	.898	1.397
35	.782	3	.892	1.081
36	.655	3	.901	1.618
37	.584	3	.650	1.944
38	.673	3	.978	1.542
39	.437	3	.709	2.719
40	.677	3	.933	1.523
41	.396	3	.586	2.973
42	.803	3	.960	.993
43	.196	3	.502	4.686
44	.299	3	.801	3.674
45	.417	3	.663	2.838

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

TWO GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

		Highest Group			
		P(D>d   G=g)		P(G=g   D=d)	Squared Mahalanobis Distance to Centroid
		p	df		
Case Number					
Cross-validated <sup>a</sup>	46	.332	3	.972	3.418
	47	.385	3	.953	3.045
	48	.673	3	.991	1.539
	49	.539	3	.983	2.162
	50	.771	3	.946	1.127
	51	.224	3	.504	4.372
	52	.505	3	.708	2.337
	53	.673	3	.991	1.539
	54	.793	3	.983	1.036
	55	.938	3	.860	.411
	56	.066	3	.994	7.178
	57	.781	3	.975	1.082
	58	.437	3	.709	2.719
	59	.766	3	.945	1.146
	60	.241	3	.999	4.198

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.



TWO GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

	Case Number	Second Highest Group			Discriminant Scores
		Group	P(G=g   D=d)	Squared Mahalanobis Distance to Centroid	Function 1
Original	1	0	.056	5.116	.989
	2	1	.091	5.152	-1.296
	3	1	.042	6.921	-1.657
	4	0	.043	5.670	1.108
	5	1	.318	2.502	-.608
	6	0	.015	8.159	1.584
	7	0	.005	11.343	2.095
	8	0	.002	13.485	2.399
	9	0	.008	9.805	1.858
	10	1	.254	2.968	-.749
	11	0	.010	9.194	1.759
	12	1	.019	9.050	-2.035
	13	0	.007	10.176	1.917
	14	1	.037	7.246	-1.719
	15	0	.025	6.910	1.356
	16	0	.004	12.258	2.228
	17	1	.318	2.505	-.609
	18	1	.034	7.474	-1.761
	19	1	.034	7.474	-1.761
	20	0	.008	10.071	1.901
	21	1	.021	8.775	-1.989
	22	1	.449	1.780	-.361
	23	0	.022	7.259	1.421
	24	0	.076	4.484	.845
	25	1	.051	6.474	-1.571
	26	1	.318	2.502	-.608
	27	0	.377	1.508	-.045
	28	0	.243	2.275	.236
	29	0	.026	6.867	1.348
	30	1	.083	5.344	-1.338
	31	0	.015	8.277	1.604
	32	1	.108	4.763	-1.209
	33	0	.001	17.427	2.902
	34	1	.149	4.080	-1.047
	35	1	.100	4.928	-1.247
	36	1	.091	5.152	-1.296
	37	1	.396	2.044	-.456
	38	1	.021	8.775	-1.989
	39	1	.258	2.935	-.740
	40	1	.062	6.026	-1.481
	41	0	.376	1.509	-.044
	42	1	.037	7.246	-1.719
	43	1	.436	1.842	-.384
	44	1	.287	2.714	-.674
	45	0	.305	1.879	.098

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

TWO GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

	Case Number	Second Highest Group			Discriminant Scores
		Group	P(G=g   D=d)	Squared Mahalanobis Distance to Centroid	Function 1
Original	46	0	.025	6.910	1.356
	47	0	.042	5.746	1.124
	48	0	.009	9.580	1.822
	49	1	.016	9.488	-2.107
	50	1	.050	6.515	-1.579
	51	0	.432	1.268	-.147
	52	1	.263	2.897	-.729
	53	0	.009	9.580	1.822
	54	0	.016	8.113	1.575
	55	1	.133	4.311	-1.103
	56	0	.006	10.578	1.980
	57	1	.050	6.515	-1.579
	58	1	.258	2.935	-.740
	59	1	.051	6.474	-1.571
	60	0	.002	15.162	2.621
	61 <sup>u</sup>	0	.003	13.257	2.368
	62 <sup>u</sup>	0	.289	1.971	.131
	63 <sup>u</sup>	0	.015	8.277	1.604
	64 <sup>u</sup>	0	.003	12.669	2.287
	65 <sup>u</sup>	0	.012	8.799	1.693
	66 <sup>u</sup>	1	.004	13.737	-2.733
	67 <sup>u</sup>	1	.008	11.301	-2.388
	68 <sup>u</sup>	0	.020	7.526	1.470
	69 <sup>u</sup>	0	.002	14.956	2.594
	70 <sup>u</sup>	0	.006	10.548	1.975
	71 <sup>u</sup>	0	.001	18.055	2.976
	72 <sup>u</sup>	0	.000	20.106	3.211
	73 <sup>u</sup>	0	.010	9.194	1.759
	74 <sup>u</sup>	0	.002	14.511	2.537
	75 <sup>u</sup>	0	.116	3.638	.634
	76 <sup>u</sup>	0	.305	1.879	.098
	77 <sup>u</sup>	0	.001	18.055	2.976
	78 <sup>u</sup>	0	.003	12.869	2.315
	79 <sup>u</sup>	1	.108	4.763	-1.209
	80 <sup>u</sup>	0	.061	4.928	.947
	81 <sup>u</sup>	0	.001	17.427	2.902
	82 <sup>u</sup>	0	.002	14.956	2.594
	83 <sup>u</sup>	0	.004	12.258	2.228
	84 <sup>u</sup>	0	.014	8.311	1.610
	85 <sup>u</sup>	1	.149	4.080	-1.047
	86 <sup>u</sup>	0	.056	5.116	.989
	87 <sup>u</sup>	1	.263	2.897	-.729
	88 <sup>u</sup>	0	.008	9.818	1.861
	89 <sup>u</sup>	0	.116	3.638	.634
	90 <sup>u</sup>	1	.254	2.968	-.749

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

TWO GROUP DISCRIMINANT ANALYSIS

**Casewise Statistics**

	Case Number	Second Highest Group			Discriminant Scores
		Group	P(G=g   D=d)	Squared Mahalanobis Distance to Centroid	Function 1
Original	91 <sup>u</sup>	1	.152	4.038	-1.036
	92 <sup>u</sup>	0	.028	6.640	1.304
	93 <sup>u</sup>	1	.133	4.311	-1.103
	94 <sup>u</sup>	0	.147	3.193	.514
	95 <sup>u</sup>	0	.012	8.821	1.697
	96 <sup>u</sup>	1	.198	3.483	-.893
	97 <sup>u</sup>	1	.019	9.050	-2.035
	98 <sup>u</sup>	1	.336	2.392	-.573
	99 <sup>u</sup>	0	.012	8.861	1.704
	100 <sup>u</sup>	0	.041	5.780	1.131

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

TWO GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

	Case Number	Second Highest Group			Discriminant Scores
		Group	P(G=g   D=d)	Squared Mahalanobis Distance to Centroid	Function 1
Cross-validated <sup>a</sup>	1	1	.059	5.638	
	2	2	.099	6.562	
	3	2	.020	9.420	
	4	1	.048	7.775	
	5	2	.334	3.086	
	6	1	.016	8.877	
	7	1	.004	19.021	
	8	1	.002	18.619	
	9	1	.009	11.203	
	10	2	.269	3.758	
	11	1	.011	10.054	
	12	2	.021	16.989	
	13	1	.007	17.310	
	14	2	.040	7.895	
	15	1	.028	9.979	
	16	1	.004	13.415	
	17	2	.277	3.736	
	18	2	.036	7.855	
	19	2	.036	7.855	
	20	1	.008	10.588	
	21	2	.022	9.674	
	22	2	.403	3.515	
	23	1	.024	9.672	
	24	1	.082	5.769	
	25	2	.055	7.368	
	26	2	.334	3.086	
	27	1	.480	6.602	
	28	1	.201	3.927	
	29	1	.029	11.123	
	30	2	.090	6.269	
	31	1	.016	11.563	
	32	2	.144	11.341	
	33	1	.000	24.161	
	34	2	.102	6.276	
	35	2	.108	5.839	
	36	2	.099	6.562	
	37	2	.350	3.721	
	38	2	.022	9.674	
	39	2	.291	5.037	
	40	2	.067	7.315	
	41	1	.414	3.134	
	42	2	.040	7.895	
	43	1	.498	4.167	
	44	2	.199	6.993	
	45	1	.337	3.651	

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

TWO GROUP DISCRIMINANT ANALYSIS

**Casewise Statistics**

	Case Number	Second Highest Group			Discriminant Scores
		Group	P(G=g   D=d)	Squared Mahalanobis Distance to Centroid	Function 1
Cross-validated <sup>a</sup>	46	1	.028	9.979	
	47	1	.047	8.530	
	48	1	.009	10.320	
	49	2	.017	10.838	
	50	2	.054	7.387	
	51	2	.496	4.942	
	52	2	.292	4.650	
	53	1	.009	10.320	
	54	1	.017	8.672	
	55	2	.140	4.586	
	56	1	.006	16.806	
	57	2	.025	8.973	
	58	2	.291	5.037	
	59	2	.055	7.368	
	60	1	.001	16.964	

For the original data, squared Mahalanobis distance is based on canonical functions.

For the cross-validated data, squared Mahalanobis distance is based on observations.

u. Unselected case

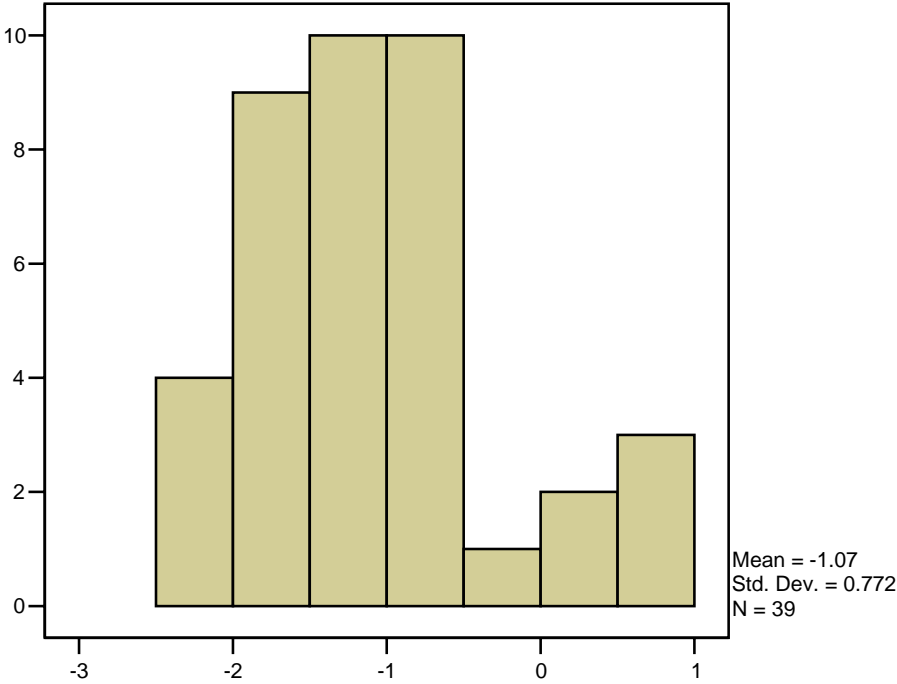
\*\* . Misclassified case

a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

**Separate-Groups Graphs**

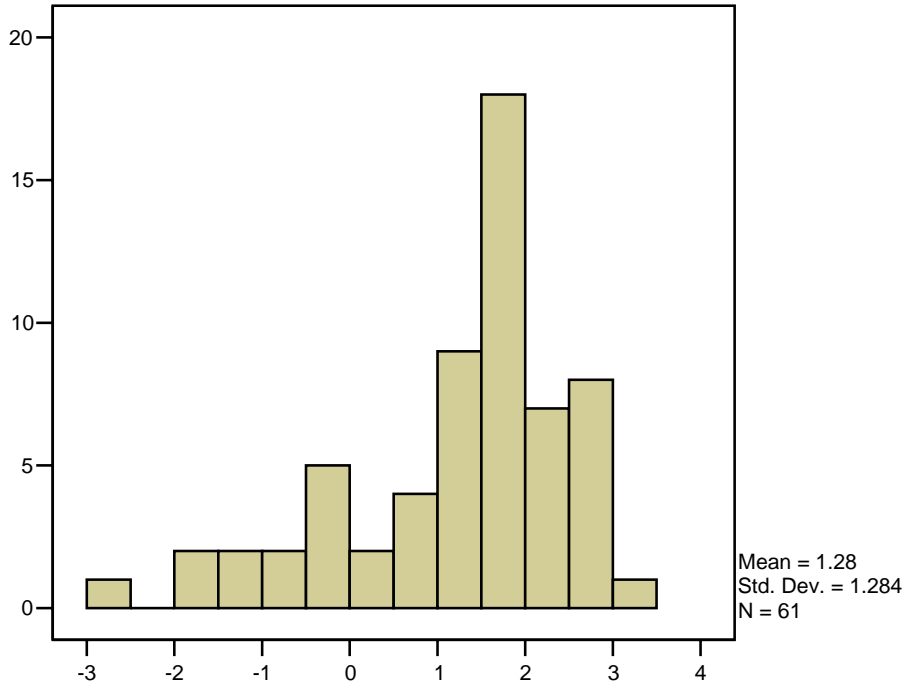
Canonical Discriminant Function 1

X4 - Region = USA/North America



**Canonical Discriminant Function 1**

**X4 - Region = Outside North Americ**



**Classification Results<sup>b,c,d</sup>**

				Predicted Group Membership	
				USA/North America	Outside North America
Cases Selected	Original	Count	USA/North America	25	1
			Outside North America	7	27
		%	USA/North America	96.2	3.8
		Outside North America	20.6	79.4	
	Cross-validated <sup>a</sup>	Count	USA/North America	24	2
			Outside North America	8	26
%		USA/North America	92.3	7.7	
	Outside North America	23.5	76.5		
Cases Not Selected	Original	Count	USA/North America	9	4
			Outside North America	2	25
		%	USA/North America	69.2	30.8
			Outside North America	7.4	92.6

TWO GROUP DISCRIMINANT ANALYSIS

**Classification Results<sup>b,c,d</sup>**

			X4 - Region	Total
Cases Selected	Original	Count	USA/North America	26
			Outside North America	34
		%	USA/North America	100.0
	Cross-validated <sup>a</sup>	Count	USA/North America	26
			Outside North America	34
		%	USA/North America	100.0
Cases Not Selected	Original	Count	USA/North America	13
			Outside North America	27
		%	USA/North America	100.0
			Outside North America	100.0

- a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.
- b. 86.7% of selected original grouped cases correctly classified.
- c. 85.0% of unselected original grouped cases correctly classified.
- d. 83.3% of selected cross-validated grouped cases correctly classified.



THREE GROUP DISCRIMINANT ANALYSIS

Discriminant

Warnings

Both COEFFICIENT and STRUCTURE have been specified on the ROTATE subcommand. COEFFICIENT will be honored.

Analysis Case Processing Summary

Unweighted Cases		N	Percent
Valid		60	60.0
Excluded	Missing or out-of-range group codes	0	.0
	At least one missing discriminating variable	0	.0
	Both missing or out-of-range group codes and at least one missing discriminating variable	0	.0
	Unselected	40	40.0
	Total	40	40.0
Total		100	100.0

Group Statistics

X1 - Customer Type		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
Less than 1 year	X6 - Product Quality	7.118	.9137	22	22.000
	X7 - E-Commerce Activities	3.514	.5971	22	22.000
	X8 - Technical Support	4.959	1.7151	22	22.000
	X9 - Complaint Resolution	4.064	.8267	22	22.000
	X10 - Advertising	3.745	1.0079	22	22.000
	X11 - Product Line	4.855	1.0550	22	22.000
	X12 - Salesforce Image	4.673	.9881	22	22.000
	X13 - Competitive Pricing	7.345	1.4647	22	22.000
	X14 - Warranty & Claims	5.705	.8403	22	22.000
	X15 - New Products	4.986	1.8460	22	22.000
	X16 - Order & Billing	3.291	.7283	22	22.000
	X17 - Price Flexibility	4.018	1.0145	22	22.000
	X18 - Delivery Speed	3.059	.5049	22	22.000

THREE GROUP DISCRIMINANT ANALYSIS

Group Statistics

X1 - Customer Type		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
1 to 5 years	X6 - Product Quality	6.785	1.4206	13	13.000
	X7 - E-Commerce Activities	3.754	.6450	13	13.000
	X8 - Technical Support	5.615	1.5947	13	13.000
	X9 - Complaint Resolution	5.900	.9548	13	13.000
	X10 - Advertising	4.277	1.1519	13	13.000
	X11 - Product Line	5.577	.9816	13	13.000
	X12 - Salesforce Image	5.346	.9315	13	13.000
	X13 - Competitive Pricing	7.123	1.2438	13	13.000
	X14 - Warranty & Claims	6.246	.7742	13	13.000
	X15 - New Products	5.092	1.2148	13	13.000
	X16 - Order & Billing	4.715	.7470	13	13.000
	X17 - Price Flexibility	5.508	1.1892	13	13.000
	X18 - Delivery Speed	4.246	.6186	13	13.000
	Over 5 years	X6 - Product Quality	9.000	.6708	25
X7 - E-Commerce Activities		3.412	.6747	25	25.000
X8 - Technical Support		5.376	1.4703	25	25.000
X9 - Complaint Resolution		6.300	.8926	25	25.000
X10 - Advertising		3.768	1.1401	25	25.000
X11 - Product Line		7.056	.8282	25	25.000
X12 - Salesforce Image		4.836	1.1683	25	25.000
X13 - Competitive Pricing		5.744	1.2790	25	25.000
X14 - Warranty & Claims		6.072	.5934	25	25.000
X15 - New Products		5.292	1.5745	25	25.000
X16 - Order & Billing		4.700	.7605	25	25.000
X17 - Price Flexibility		4.084	.6600	25	25.000
X18 - Delivery Speed		4.288	.4400	25	25.000
Total		X6 - Product Quality	7.830	1.3786	60
	X7 - E-Commerce Activities	3.523	.6432	60	60.000
	X8 - Technical Support	5.275	1.5845	60	60.000
	X9 - Complaint Resolution	5.393	1.3479	60	60.000
	X10 - Advertising	3.870	1.0986	60	60.000
	X11 - Product Line	5.928	1.3664	60	60.000
	X12 - Salesforce Image	4.887	1.0695	60	60.000
	X13 - Competitive Pricing	6.630	1.5234	60	60.000
	X14 - Warranty & Claims	5.975	.7510	60	60.000
	X15 - New Products	5.137	1.5939	60	60.000
	X16 - Order & Billing	4.187	1.0050	60	60.000
	X17 - Price Flexibility	4.368	1.0941	60	60.000
	X18 - Delivery Speed	3.828	.7720	60	60.000

## THREE GROUP DISCRIMINANT ANALYSIS

### Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
X6 - Product Quality	.469	32.311	2	57	.000
X7 - E-Commerce Activities	.959	1.221	2	57	.303
X8 - Technical Support	.973	.782	2	57	.462
X9 - Complaint Resolution	.414	40.292	2	57	.000
X10 - Advertising	.961	1.147	2	57	.325
X11 - Product Line	.467	32.583	2	57	.000
X12 - Salesforce Image	.943	1.708	2	57	.190
X13 - Competitive Pricing	.751	9.432	2	57	.000
X14 - Warranty & Claims	.916	2.619	2	57	.082
X15 - New Products	.992	.216	2	57	.807
X16 - Order & Billing	.532	25.048	2	57	.000
X17 - Price Flexibility	.694	12.551	2	57	.000
X18 - Delivery Speed	.415	40.176	2	57	.000

## Analysis 1

### Box's Test of Equality of Covariance Matrices

#### Log Determinants

X1 - Customer Type	Rank	Log Determinant
Less than 1 year	2	-1.667
1 to 5 years	2	-1.032
Over 5 years	2	-2.603
Pooled within-groups	2	-1.726

The ranks and natural logarithms of determinants printed are those of the group covariance matrices.

#### Test Results

Box's M		11.458
F	Approx.	1.802
	df1	6
	df2	19471.78
	Sig.	.094

Tests null hypothesis of equal population covariance matrices.

## Stepwise Statistics

THREE GROUP DISCRIMINANT ANALYSIS

Variables Entered/Removed<sup>a,b,c,d</sup>

Step	Entered	Removed	Min. D Squared					
			Statistic	Between Groups	Exact F			
					Statistic	df1	df2	Sig.
1	X11 - Product Line		.579	Less than 1 year and 1 to 5 years	4.729	1	57.000	.034
2	X17 - Price Flexibility		3.322	1 to 5 years and Over 5 years	13.958	2	56.000	1.207E-05
3	X6 - Product Quality		6.071	Less than 1 year and 1 to 5 years	15.957	3	55.000	1.388E-07
4	X18 - Delivery Speed		6.920	Less than 1 year and 1 to 5 years	13.393	4	54.000	1.198E-07
5		X17 - Price Flexibility	6.916	Less than 1 year and 1 to 5 years	18.177	3	55.000	2.551E-08
6		X11 - Product Line	6.388	Less than 1 year and 1 to 5 years	25.642	2	56.000	1.243E-08

At each step, the variable that maximizes the Mahalanobis distance between the two closest groups is entered.

- a. Maximum number of steps is 26.
- b. Minimum partial F to enter is 3.84.
- c. Maximum partial F to remove is 2.71.
- d. F level, tolerance, or VIN insufficient for further computation.

### THREE GROUP DISCRIMINANT ANALYSIS

#### Variables in the Analysis

Step		Tolerance	F to Remove	Min. D Squared	Between Groups
1	X11 - Product Line	1.000	32.583		
2	X11 - Product Line	.807	39.405	.005	Less than 1 year and Over 5 years
	X17 - Price Flexibility	.807	17.300	.579	Less than 1 year and 1 to 5 years
3	X11 - Product Line	.752	31.532	2.783	Less than 1 year and 1 to 5 years
	X17 - Price Flexibility	.589	24.299	.698	Less than 1 year and 1 to 5 years
	X6 - Product Quality	.730	24.444	3.322	1 to 5 years and Over 5 years
4	X11 - Product Line	.075	.918	6.830	Less than 1 year and 1 to 5 years
	X17 - Price Flexibility	.070	1.735	6.916	Less than 1 year and 1 to 5 years
	X6 - Product Quality	.680	27.701	3.598	1 to 5 years and Over 5 years
	X18 - Delivery Speed	.063	5.387	6.071	Less than 1 year and 1 to 5 years
5	X11 - Product Line	.701	2.552	6.388	Less than 1 year and 1 to 5 years
	X6 - Product Quality	.684	28.904	2.988	1 to 5 years and Over 5 years
	X18 - Delivery Speed	.529	30.883	.698	Less than 1 year and 1 to 5 years
6	X6 - Product Quality	.754	50.494	.007	1 to 5 years and Over 5 years
	X18 - Delivery Speed	.754	60.646	.121	Less than 1 year and 1 to 5 years

THREE GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
0	X6 - Product Quality	1.000	1.000	32.311	.121	Less than 1 year and 1 to 5 years
	X7 - E-Commerce Activities	1.000	1.000	1.221	.025	Less than 1 year and Over 5 years
	X8 - Technical Support	1.000	1.000	.782	.023	1 to 5 years and Over 5 years
	X9 - Complaint Resolution	1.000	1.000	40.292	.205	1 to 5 years and Over 5 years
	X10 - Advertising	1.000	1.000	1.147	.000	Less than 1 year and Over 5 years
	X11 - Product Line	1.000	1.000	32.583	.579	Less than 1 year and 1 to 5 years
	X12 - Salesforce Image	1.000	1.000	1.708	.024	Less than 1 year and Over 5 years
	X13 - Competitive Pricing	1.000	1.000	9.432	.027	Less than 1 year and 1 to 5 years
	X14 - Warranty & Claims	1.000	1.000	2.619	.057	1 to 5 years and Over 5 years
	X15 - New Products	1.000	1.000	.216	.004	Less than 1 year and 1 to 5 years
	X16 - Order & Billing	1.000	1.000	25.048	.000	1 to 5 years and Over 5 years
	X17 - Price Flexibility	1.000	1.000	12.551	.005	Less than 1 year and Over 5 years
	X18 - Delivery Speed	1.000	1.000	40.176	.007	1 to 5 years and Over 5 years

THREE GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
1	X6 - Product Quality	1.000	1.000	17.426	.698	Less than 1 year and 1 to 5 years
	X7 - E-Commerce Activities	.950	.950	1.171	.892	Less than 1 year and 1 to 5 years
	X8 - Technical Support	.959	.959	.733	.649	Less than 1 year and 1 to 5 years
	X9 - Complaint Resolution	.847	.847	15.446	2.455	1 to 5 years and Over 5 years
	X10 - Advertising	.998	.998	1.113	.850	Less than 1 year and 1 to 5 years
	X12 - Salesforce Image	.932	.932	3.076	1.328	Less than 1 year and 1 to 5 years
	X13 - Competitive Pricing	.849	.849	.647	.599	Less than 1 year and 1 to 5 years
	X14 - Warranty & Claims	.882	.882	2.299	.839	Less than 1 year and 1 to 5 years
	X15 - New Products	.993	.993	.415	.596	Less than 1 year and 1 to 5 years
	X16 - Order & Billing	.943	.943	12.176	2.590	1 to 5 years and Over 5 years
	X17 - Price Flexibility	.807	.807	17.300	3.322	1 to 5 years and Over 5 years
	X18 - Delivery Speed	.773	.773	19.020	2.988	1 to 5 years and Over 5 years

THREE GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
2	X6 - Product Quality	.730	.589	24.444	6.071	Less than 1 year and 1 to 5 years
	X7 - E-Commerce Activities	.880	.747	.014	3.327	1 to 5 years and Over 5 years
	X8 - Technical Support	.949	.791	1.023	3.655	1 to 5 years and Over 5 years
	X9 - Complaint Resolution	.520	.475	3.932	3.608	1 to 5 years and Over 5 years
	X10 - Advertising	.935	.756	.102	3.348	1 to 5 years and Over 5 years
	X12 - Salesforce Image	.884	.765	.662	3.342	1 to 5 years and Over 5 years
	X13 - Competitive Pricing	.794	.750	.989	3.372	1 to 5 years and Over 5 years
	X14 - Warranty & Claims	.868	.750	2.733	4.225	1 to 5 years and Over 5 years
	X15 - New Products	.963	.782	.504	3.505	1 to 5 years and Over 5 years
	X16 - Order & Billing	.754	.645	2.456	3.323	1 to 5 years and Over 5 years
	X18 - Delivery Speed	.067	.067	3.255	3.598	1 to 5 years and Over 5 years



THREE GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
3	X7 - E-Commerce Activities	.871	.568	.183	6.075	Less than 1 year and 1 to 5 years
	X8 - Technical Support	.945	.580	.814	6.380	Less than 1 year and 1 to 5 years
	X9 - Complaint Resolution	.491	.351	.704	6.384	Less than 1 year and 1 to 5 years
	X10 - Advertising	.932	.568	.004	6.072	Less than 1 year and 1 to 5 years
	X12 - Salesforce Image	.872	.578	1.030	6.315	Less than 1 year and 1 to 5 years
	X13 - Competitive Pricing	.792	.553	.899	6.298	Less than 1 year and 1 to 5 years
	X14 - Warranty & Claims	.847	.568	2.137	6.962	Less than 1 year and 1 to 5 years
	X15 - New Products	.935	.556	.349	6.239	Less than 1 year and 1 to 5 years
	X16 - Order & Billing	.685	.428	1.377	6.512	Less than 1 year and 1 to 5 years
	X18 - Delivery Speed	.063	.063	5.387	6.920	Less than 1 year and 1 to 5 years

THREE GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
4	X7 - E-Commerce Activities	.870	.063	.226	6.931	Less than 1 year and 1 to 5 years
	X8 - Technical Support	.940	.063	.793	7.164	Less than 1 year and 1 to 5 years
	X9 - Complaint Resolution	.453	.058	.292	7.019	Less than 1 year and 1 to 5 years
	X10 - Advertising	.932	.063	.006	6.921	Less than 1 year and 1 to 5 years
	X12 - Salesforce Image	.843	.061	.315	7.031	Less than 1 year and 1 to 5 years
	X13 - Competitive Pricing	.790	.063	.924	7.193	Less than 1 year and 1 to 5 years
	X14 - Warranty & Claims	.843	.063	2.023	7.696	Less than 1 year and 1 to 5 years
	X15 - New Products	.927	.062	.227	7.028	Less than 1 year and 1 to 5 years
	X16 - Order & Billing	.671	.062	1.478	7.210	Less than 1 year and 1 to 5 years

THREE GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
5	X7 - E-Commerce Activities	.879	.515	.128	6.925	Less than 1 year and 1 to 5 years
	X8 - Technical Support	.951	.524	.683	7.163	Less than 1 year and 1 to 5 years
	X9 - Complaint Resolution	.453	.290	.322	7.014	Less than 1 year and 1 to 5 years
	X10 - Advertising	.935	.511	.020	6.916	Less than 1 year and 1 to 5 years
	X12 - Salesforce Image	.856	.509	.469	7.030	Less than 1 year and 1 to 5 years
	X13 - Competitive Pricing	.791	.496	1.054	7.191	Less than 1 year and 1 to 5 years
	X14 - Warranty & Claims	.858	.516	1.849	7.693	Less than 1 year and 1 to 5 years
	X15 - New Products	.954	.509	.221	7.028	Less than 1 year and 1 to 5 years
	X16 - Order & Billing	.675	.379	1.755	7.198	Less than 1 year and 1 to 5 years
	X17 - Price Flexibility	.070	.063	1.735	6.920	Less than 1 year and 1 to 5 years

THREE GROUP DISCRIMINANT ANALYSIS

Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Min. D Squared	Between Groups
6	X7 - E-Commerce Activities	.954	.728	.177	6.474	Less than 1 year and 1 to 5 years
	X8 - Technical Support	.999	.753	.269	6.495	Less than 1 year and 1 to 5 years
	X9 - Complaint Resolution	.453	.349	.376	6.490	Less than 1 year and 1 to 5 years
	X10 - Advertising	.954	.742	.128	6.402	Less than 1 year and 1 to 5 years
	X11 - Product Line	.701	.529	2.552	6.916	Less than 1 year and 1 to 5 years
	X12 - Salesforce Image	.957	.730	.641	6.697	Less than 1 year and 1 to 5 years
	X13 - Competitive Pricing	.994	.749	1.440	6.408	Less than 1 year and 1 to 5 years
	X14 - Warranty & Claims	.991	.751	.657	6.694	Less than 1 year and 1 to 5 years
	X15 - New Products	.984	.744	.151	6.428	Less than 1 year and 1 to 5 years
	X16 - Order & Billing	.682	.514	2.397	6.750	Less than 1 year and 1 to 5 years
	X17 - Price Flexibility	.652	.628	3.431	6.830	Less than 1 year and 1 to 5 years

THREE GROUP DISCRIMINANT ANALYSIS

Wilks' Lambda

Step	Number of Variables	Lambda	df1	df2	df3
1	1	.467	1	2	57
2	2	.288	2	2	57
3	3	.153	3	2	57
4	4	.127	4	2	57
5	3	.135	3	2	57
6	2	.148	2	2	57

Wilks' Lambda

Step	Exact F			
	Statistic	df1	df2	Sig.
1	32.583	2	57.000	.000
2	24.139	4	112.000	.000
3	28.585	6	110.000	.000
4	24.340	8	108.000	.000
5	31.478	6	110.000	.000
6	44.774	4	112.000	.000

### THREE GROUP DISCRIMINANT ANALYSIS

#### Pairwise Group Comparisons<sup>a,b,c,d,e,f</sup>

Step	X1 - Customer Type		Less than 1 year	1 to 5 years	Over 5 years
1	Less than 1 year	F		4.729	62.893
		Sig.		.034	.000
	1 to 5 years	F	4.729		20.749
		Sig.	.034		.000
	Over 5 years	F	62.893	20.749	
		Sig.	.000	.000	
2	Less than 1 year	F		21.054	39.360
		Sig.		.000	.000
	1 to 5 years	F	21.054		13.958
		Sig.	.000		.000
	Over 5 years	F	39.360	13.958	
		Sig.	.000	.000	
3	Less than 1 year	F		15.957	60.542
		Sig.		.000	.000
	1 to 5 years	F	15.957		21.625
		Sig.	.000		.000
	Over 5 years	F	60.542	21.625	
		Sig.	.000	.000	
4	Less than 1 year	F		13.393	56.164
		Sig.		.000	.000
	1 to 5 years	F	13.393		18.477
		Sig.	.000		.000
	Over 5 years	F	56.164	18.477	
		Sig.	.000	.000	
5	Less than 1 year	F		18.177	72.377
		Sig.		.000	.000
	1 to 5 years	F	18.177		22.602
		Sig.	.000		.000
	Over 5 years	F	72.377	22.602	
		Sig.	.000	.000	
6	Less than 1 year	F		25.642	110.261
		Sig.		.000	.000
	1 to 5 years	F	25.642		30.756
		Sig.	.000		.000
	Over 5 years	F	110.261	30.756	
		Sig.	.000	.000	

a. 1, 57 degrees of freedom for step 1.

b. 2, 56 degrees of freedom for step 2.

c. 3, 55 degrees of freedom for step 3.

d. 4, 54 degrees of freedom for step 4.

e. 3, 55 degrees of freedom for step 5.

f. 2, 56 degrees of freedom for step 6.

### Summary of Canonical Discriminant Functions

### THREE GROUP DISCRIMINANT ANALYSIS

#### Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	3.950 <sup>a</sup>	91.5	91.5	.893
2	.365 <sup>a</sup>	8.5	100.0	.517

a. First 2 canonical discriminant functions were used in the analysis.

#### Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.148	107.932	4	.000
2	.733	17.569	1	.000

#### Standardized Canonical Discriminant Function Coefficients

	Function	
	1	2
X6 - Product Quality	.969	.622
X18 - Delivery Speed	1.021	-.533

#### Structure Matrix

	Function	
	1	2
X9 - Complaint Resolution	.572*	-.470
X16 - Order & Billing <sup>a</sup>	.499*	-.263
X11 - Product Line <sup>a</sup>	.483*	-.256
X15 - New Products <sup>a</sup>	.125*	-.005
X8 - Technical Support <sup>a</sup>	.030*	-.017
X6 - Product Quality	.463	.886*
X18 - Delivery Speed	.540	-.842*
X17 - Price Flexibility <sup>a</sup>	.106	-.580*
X10 - Advertising <sup>a</sup>	.028	-.213*
X7 - E-Commerce Activities	-.095	-.193*
X12 - Salesforce Image <sup>a</sup>	-.088	-.188*
X14 - Warranty & Claims <sup>a</sup>	.030	-.088*
X13 - Competitive Pricing <sup>a</sup>	-.055	-.059*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions

Variables ordered by absolute size of correlation within function.

\*. Largest absolute correlation between each variable and any discriminant function

a. This variable not used in the analysis.

#### Rotation Statistics

### THREE GROUP DISCRIMINANT ANALYSIS

#### Varimax Transformation Matrix

Function	1	2
1	.738	.675
2	-.675	.738

#### Rotated Standardized Canonical Discriminant Function Coefficients<sup>a</sup>

	Function	
	1	2
X18 - Delivery Speed	1.113*	.295
X6 - Product Quality	.295	1.113*

Variables ordered by absolute size of correlation within function.

\*. Largest absolute coefficient of the variable among the discriminant functions

a. % of variance by function 1 = 53.7, function 2 = 46.3

#### Correlations Between Variables and Rotated Functions

	Function	
	1	2
X6 - Product Quality	-.257	.967
X18 - Delivery Speed	.967	-.257
X7 - E-Commerce Activities	.061	-.207
X8 - Technical Support <sup>a</sup>	.033	.008
X9 - Complaint Resolution	.739	.039
X10 - Advertising <sup>a</sup>	.165	-.138
X11 - Product Line <sup>a</sup>	.529	.137
X12 - Salesforce Image <sup>a</sup>	.061	-.198
X13 - Competitive Pricing <sup>a</sup>	-.001	-.080
X14 - Warranty & Claims <sup>a</sup>	.081	-.044
X15 - New Products <sup>a</sup>	.096	.080
X16 - Order & Billing <sup>a</sup>	.546	.143
X17 - Price Flexibility <sup>a</sup>	.470	-.356

Pooled within-groups correlations between discriminating variables and rotated standardized canonical discriminant functions

a. This variable not used in the analysis.

#### Canonical Discriminant Function Coefficients

	Function	
	1	2
X6 - Product Quality	.308	1.159
X18 - Delivery Speed	2.200	.584
(Constant)	-10.832	-11.313

Unstandardized coefficients



### THREE GROUP DISCRIMINANT ANALYSIS

#### Functions at Group Centroids

X1 - Customer Type	Function	
	1	2
Less than 1 year	-1.911	-1.274
1 to 5 years	.597	-.968
Over 5 years	1.371	1.625

Unstandardized canonical discriminant functions evaluated at group means

## Classification Statistics

#### Classification Processing Summary

Processed		100
Excluded	Missing or out-of-range group codes	0
	At least one missing discriminating variable	0
Used in Output		100

#### Prior Probabilities for Groups

X1 - Customer Type	Prior	Cases Used in Analysis	
		Unweighted	Weighted
Less than 1 year	.367	22	22.000
1 to 5 years	.217	13	13.000
Over 5 years	.417	25	25.000
Total	1.000	60	60.000

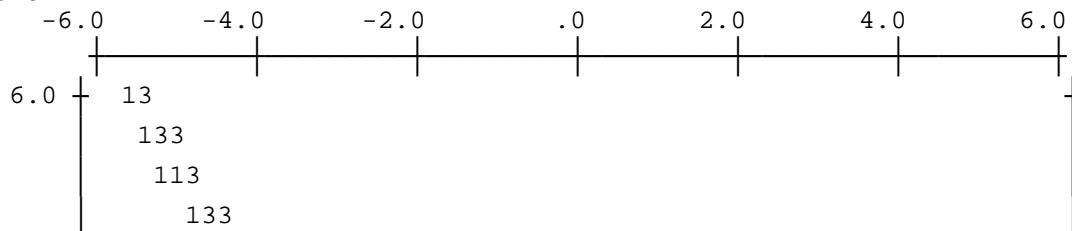
#### Classification Function Coefficients

	X1 - Customer Type		
	Less than 1 year	1 to 5 years	Over 5 years
X6 - Product Quality	14.382	15.510	18.753
X18 - Delivery Speed	25.487	31.185	34.401
(Constant)	-91.174	-120.351	-159.022

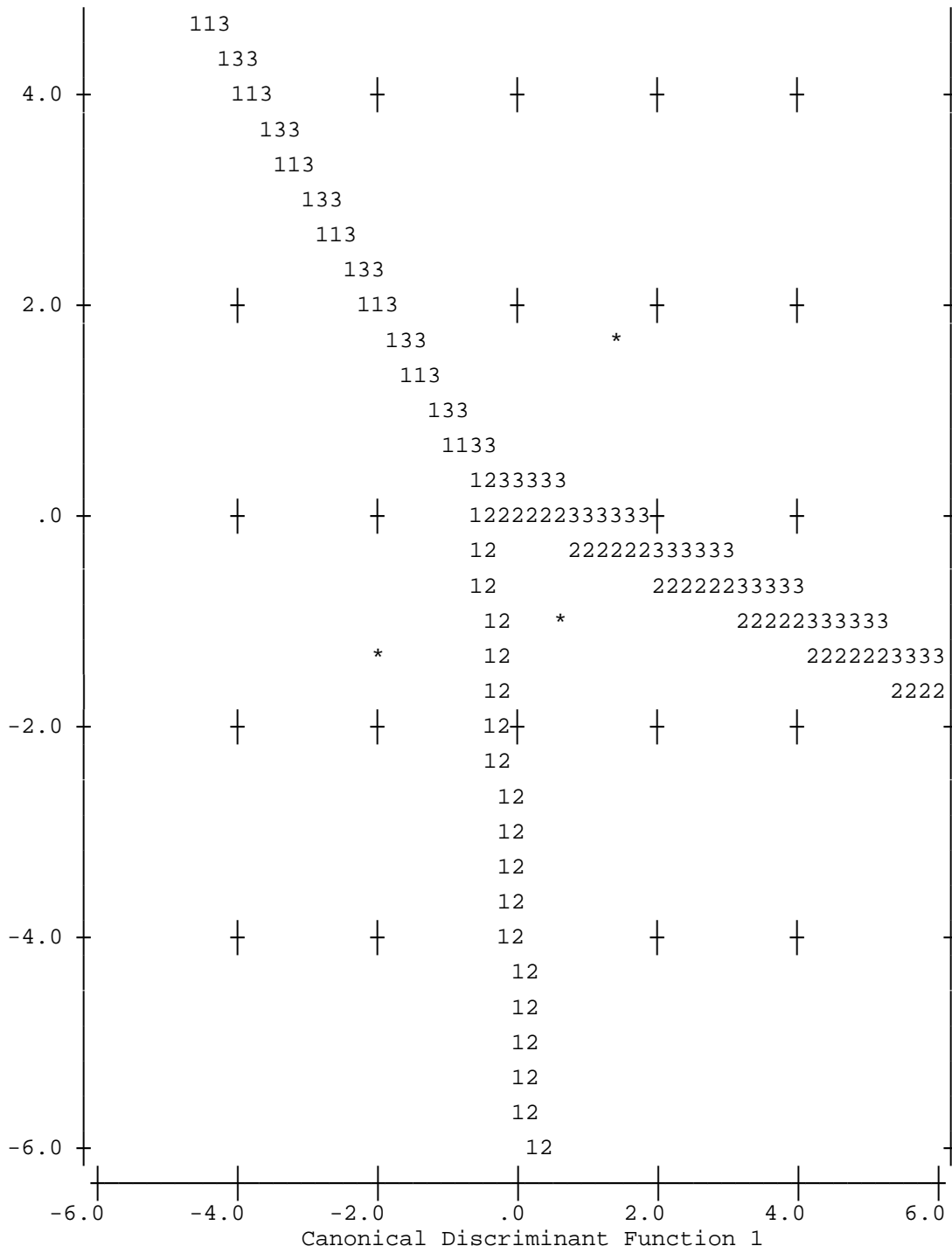
Fisher's linear discriminant functions

#### Territorial Map

Canonical Discriminant Function 2



### THREE GROUP DISCRIMINANT ANALYSIS



## THREE GROUP DISCRIMINANT ANALYSIS

Symbols used in territorial map

Symbol	Group	Label
1	1	Less than 1 year
2	2	1 to 5 years
3	3	Over 5 years
*		Indicates a group centroid

THREE GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

			Highest
Original	Case Number	Actual Group	Predicted Group
	1	2	3**
	2	3	3
	3	3	3
	4	1	1
	5	2	3**
	6	1	1
	7	1	1
	8	2	1**
	9	1	2**
	10	3	3
	11	1	1
	12	3	3
	13	2	2
	14	3	3
	15	2	2
	16	3	3
	17	3	3
	18	3	3
	19	3	3
	20	1	1
	21	1	1
	22	1	1
	23	1	1
	24	1	1
	25	1	1
	26	2	3**
	27	3	3
	28	3	3
	29	2	2
	30	3	3
	31	2	2
	32	3	3
	33	2	2
	34	3	3
	35	3	3
	36	3	3
	37	3	3
	38	1	1
	39	3	3
	40	3	2**
	41	3	3
	42	3	3
	43	1	1
	44	1	1
	45	1	1
	46	2	2

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

THREE GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

	Case Number	Actual Group	Highest
			Predicted Group
Original	47	2	2
	48	1	1
	49	1	1
	50	3	3
	51	1	1
	52	3	3
	53	1	1
	54	1	1
	55	2	3**
	56	1	1
	57	3	3
	58	3	3
	59	1	1
	60	2	1**
	61 <sup>u</sup>	2	2
	62 <sup>u</sup>	1	3**
	63 <sup>u</sup>	2	2
	64 <sup>u</sup>	2	2
	65 <sup>u</sup>	1	1
	66 <sup>u</sup>	3	3
	67 <sup>u</sup>	2	3**
	68 <sup>u</sup>	1	2**
	69 <sup>u</sup>	2	2
	70 <sup>u</sup>	1	1
	71 <sup>u</sup>	2	3**
	72 <sup>u</sup>	2	3**
	73 <sup>u</sup>	1	1
	74 <sup>u</sup>	2	3**
	75 <sup>u</sup>	2	3**
	76 <sup>u</sup>	1	1
	77 <sup>u</sup>	2	3**
	78 <sup>u</sup>	2	3**
79 <sup>u</sup>	3	3	
80 <sup>u</sup>	2	3**	
81 <sup>u</sup>	2	2	
82 <sup>u</sup>	2	2	
83 <sup>u</sup>	3	3	
84 <sup>u</sup>	2	2	
85 <sup>u</sup>	3	3	
86 <sup>u</sup>	2	3**	
87 <sup>u</sup>	3	3	
88 <sup>u</sup>	1	2**	
89 <sup>u</sup>	2	3**	
90 <sup>u</sup>	3	3	
91 <sup>u</sup>	2	1**	
92 <sup>u</sup>	1	1	

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

### THREE GROUP DISCRIMINANT ANALYSIS

#### Casewise Statistics

		Highest	
		Predicted Group	
Original	Case Number	Actual Group	Predicted Group
	93 <sup>u</sup>	2	3**
	94 <sup>u</sup>	2	3**
	95 <sup>u</sup>	2	2
	96 <sup>u</sup>	3	3
	97 <sup>u</sup>	3	3
	98 <sup>u</sup>	1	3**
	99 <sup>u</sup>	1	2**
	100 <sup>u</sup>	2	2

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

THREE GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

	Case Number	Actual Group	Highest
			Predicted Group
Cross-validated <sup>a</sup>	1	2	3**
	2	3	3
	3	3	3
	4	1	1
	5	2	3**
	6	1	1
	7	1	1
	8	2	1**
	9	1	2**
	10	3	3
	11	1	1
	12	3	3
	13	2	2
	14	3	3
	15	2	2
	16	3	3
	17	3	3
	18	3	3
	19	3	3
	20	1	1
	21	1	1
	22	1	1
	23	1	1
	24	1	1
	25	1	1
	26	2	3**
	27	3	3
	28	3	3
	29	2	2
	30	3	3
	31	2	2
	32	3	3
	33	2	2
	34	3	3
	35	3	3
	36	3	3
	37	3	3
	38	1	1
	39	3	3
	40	3	2**
	41	3	3
	42	3	3
	43	1	1
	44	1	1
	45	1	1
	46	2	2

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

THREE GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

	Case Number	Actual Group	Highest
			Predicted Group
Cross-validated <sup>a</sup>	47	2	2
	48	1	1
	49	1	1
	50	3	3
	51	1	1
	52	3	3
	53	1	1
	54	1	1
	55	2	3**
	56	1	1
	57	3	3
	58	3	3
	59	1	1
	60	2	1**

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.



THREE GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

		Highest Group			
		P(D>d   G=g)		P(G=g   D=d)	Squared Mahalanobis Distance to Centroid
		p	df		
Original	Case Number				
	1	.229	2	.645	2.947
	2	.464	2	.976	1.535
	3	.817	2	.996	.405
	4	.646	2	.992	.875
	5	.200	2	.809	3.217
	6	.800	2	.954	.447
	7	.039	2	1.000	6.505
	8	.417	2	.751	1.747
	9	.916	2	.936	.175
	10	.673	2	.916	.793
	11	.547	2	.983	1.206
	12	.975	2	.991	.050
	13	.150	2	.819	3.800
	14	.909	2	.982	.190
	15	.527	2	.944	1.281
	16	.947	2	.993	.110
	17	.765	2	.997	.535
	18	.872	2	.955	.273
	19	.872	2	.955	.273
	20	.384	2	.646	1.916
	21	.893	2	.930	.227
	22	.536	2	.947	1.248
	23	.792	2	.904	.468
	24	.684	2	.842	.759
	25	.244	2	.994	2.824
	26	.200	2	.809	3.217
	27	.178	2	1.000	3.453
	28	.932	2	.995	.140
	29	.196	2	.901	3.258
	30	.548	2	.916	1.202
	31	.500	2	.976	1.388
	32	.283	2	.993	2.522
	33	.165	2	.968	3.604
	34	.607	2	.997	1.000
	35	.426	2	.684	1.706
	36	.464	2	.976	1.535
	37	.585	2	.999	1.072
	38	.893	2	.930	.227
	39	.174	2	.883	3.493
	40	.695	2	.700	.727
	41	.640	2	.998	.893
	42	.909	2	.982	.190
	43	.176	2	.914	3.476
	44	.652	2	.997	.856
	45	.578	2	.997	1.098
	46	.527	2	.944	1.281

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

THREE GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

		Highest Group			
		P(D>d   G=g)		P(G=g   D=d)	Squared Mahalanobis Distance to Centroid
		p	df		
Original	Case Number				
	47	.333	2	.821	2.202
	48	.559	2	.788	1.164
	49	.899	2	.981	.214
	50	.642	2	.998	.887
	51	.710	2	.997	.686
	52	.546	2	.996	1.210
	53	.559	2	.788	1.164
	54	.044	2	.997	6.228
	55	.303	2	.529	2.390
	56	.319	2	.999	2.283
	57	.642	2	.998	.887
	58	.174	2	.883	3.493
	59	.244	2	.994	2.824
	60	.244	2	.543	2.820
	61 <sup>u</sup>	.577	2	.967	1.100
	62 <sup>u</sup>	.750	2	.998	.576
	63 <sup>u</sup>	.500	2	.976	1.388
	64 <sup>u</sup>	.463	2	.939	1.538
	65 <sup>u</sup>	.114	2	.989	4.342
	66 <sup>u</sup>	.764	2	.998	.538
	67 <sup>u</sup>	.615	2	.886	.972
	68 <sup>u</sup>	.423	2	.593	1.723
	69 <sup>u</sup>	.550	2	.564	1.194
	70 <sup>u</sup>	.379	2	.546	1.943
	71 <sup>u</sup>	.424	2	.682	1.717
	72 <sup>u</sup>	.707	2	.917	.694
	73 <sup>u</sup>	.547	2	.983	1.206
	74 <sup>u</sup>	.330	2	.670	2.220
	75 <sup>u</sup>	.900	2	.993	.210
	76 <sup>u</sup>	.640	2	.997	.893
	77 <sup>u</sup>	.424	2	.682	1.717
	78 <sup>u</sup>	.049	2	.954	6.041
	79 <sup>u</sup>	.283	2	.993	2.522
	80 <sup>u</sup>	.130	2	.447	4.088
	81 <sup>u</sup>	.165	2	.968	3.604
	82 <sup>u</sup>	.550	2	.564	1.194
	83 <sup>u</sup>	.947	2	.993	.110
	84 <sup>u</sup>	.782	2	.931	.492
	85 <sup>u</sup>	.607	2	.997	1.000
	86 <sup>u</sup>	.229	2	.645	2.947
	87 <sup>u</sup>	.546	2	.996	1.210
	88 <sup>u</sup>	.666	2	.700	.813
	89 <sup>u</sup>	.900	2	.993	.210
	90 <sup>u</sup>	.673	2	.916	.793
	91 <sup>u</sup>	.230	2	.891	2.940
	92 <sup>u</sup>	.001	2	1.000	14.609

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

### THREE GROUP DISCRIMINANT ANALYSIS

#### Casewise Statistics

		Highest Group			
		P(D>d   G=g)		P(G=g   D=d)	Squared Mahalanobis Distance to Centroid
		p	df		
Original	Case Number				
	93 <sup>u</sup>	.303	2	.529	2.390
	94 <sup>u</sup>	.708	2	.966	.689
	95 <sup>u</sup>	.314	2	.987	2.314
	96 <sup>u</sup>	.091	2	.670	4.804
	97 <sup>u</sup>	.975	2	.991	.050
	98 <sup>u</sup>	.180	2	.622	3.428
	99 <sup>u</sup>	.554	2	.543	1.180
	100 <sup>u</sup>	.562	2	.626	1.152

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

THREE GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

Case Number	Highest Group			
	P(D>d   G=g)		P(G=g   D=d)	Squared Mahalanobis Distance to Centroid
	p	df		
Cross-validated <sup>a</sup> 1	.234	2	.712	2.902
2	.431	2	.972	1.684
3	.804	2	.996	.435
4	.619	2	.992	.959
5	.205	2	.880	3.170
6	.784	2	.951	.486
7	.019	2	1.000	7.967
8	.421	2	.807	1.732
9	.914	2	.959	.180
10	.651	2	.911	.858
11	.514	2	.981	1.330
12	.974	2	.990	.053
13	.094	2	.737	4.722
14	.903	2	.981	.203
15	.469	2	.935	1.513
16	.943	2	.993	.117
17	.750	2	.997	.575
18	.864	2	.953	.292
19	.864	2	.953	.292
20	.343	2	.620	2.142
21	.884	2	.928	.246
22	.502	2	.941	1.377
23	.775	2	.900	.509
24	.660	2	.836	.830
25	.201	2	.993	3.212
26	.205	2	.880	3.170
27	.140	2	1.000	3.929
28	.928	2	.995	.150
29	.135	2	.863	4.005
30	.519	2	.909	1.310
31	.440	2	.972	1.644
32	.244	2	.991	2.818
33	.107	2	.956	4.461
34	.581	2	.997	1.085
35	.391	2	.668	1.877
36	.431	2	.972	1.684
37	.558	2	.999	1.166
38	.884	2	.928	.246
39	.137	2	.853	3.978
40	.691	2	.755	.739
41	.616	2	.998	.968
42	.903	2	.981	.203
43	.135	2	.889	4.003
44	.626	2	.996	.937
45	.547	2	.997	1.208
46	.469	2	.935	1.513

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

THREE GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

		Highest Group			
		P(D>d   G=g)		P(G=g   D=d)	Squared Mahalanobis Distance to Centroid
		p	df		
Case Number					
Cross-validated <sup>a</sup>	47	.266	2	.778	2.649
	48	.527	2	.776	1.283
	49	.891	2	.980	.232
	50	.618	2	.998	.961
	51	.688	2	.997	.749
	52	.517	2	.996	1.319
	53	.527	2	.776	1.283
	54	.023	2	.997	7.584
	55	.300	2	.557	2.409
	56	.277	2	.999	2.570
	57	.618	2	.998	.961
	58	.137	2	.853	3.978
	59	.201	2	.993	3.212
	60	.249	2	.598	2.777

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

THREE GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

	Case Number	Second Highest Group			Discriminant Scores	
		Group	P(G=g   D=d)	Squared Mahalanobis Distance to Centroid	Function 1	Function 2
Original	1	2	.290	3.241	-.076	.702
	2	2	.024	7.603	2.471	1.055
	3	2	.004	10.387	1.899	1.980
	4	2	.008	9.556	-2.262	-2.141
	5	2	.136	5.468	-.362	1.165
	6	2	.045	5.484	-1.572	-1.850
	7	2	.000	25.455	-4.308	-2.146
	8	2	.249	2.902	-.784	-1.965
	9	1	.042	7.449	.818	-1.324
	10	2	.082	4.315	.645	1.109
	11	2	.017	8.284	-1.915	-2.372
	12	2	.009	8.102	1.239	1.805
	13	3	.181	8.128	2.547	-.973
	14	2	.018	6.928	1.745	1.401
	15	1	.052	8.116	.822	-2.077
	16	2	.007	8.800	1.648	1.806
	17	2	.003	11.165	1.930	2.096
	18	2	.045	5.070	1.464	1.111
	19	2	.045	5.070	1.464	1.111
	20	2	.333	2.193	-.793	-.458
	21	2	.070	4.361	-1.449	-1.387
	22	2	.050	6.095	-1.739	-.171
	23	2	.095	3.913	-1.290	-1.560
	24	2	.157	3.066	-1.070	-1.502
	25	2	.006	12.017	-2.654	.233
	26	2	.136	5.468	-.362	1.165
	27	2	.000	18.603	2.902	2.678
	28	2	.005	9.484	1.490	1.980
	29	1	.098	8.741	.637	-2.773
	30	2	.083	4.686	1.970	.706
	31	3	.016	10.885	1.544	-1.670
	32	2	.007	11.260	-.054	2.324
	33	3	.031	11.825	2.362	-1.668
	34	2	.003	11.663	.795	2.442
	35	2	.312	1.967	1.059	.357
	36	2	.024	7.603	2.471	1.055
	37	2	.001	12.995	2.181	2.271
	38	2	.070	4.361	-1.449	-1.387
	39	2	.078	7.048	-.490	1.454
	40	3	.221	4.341	.307	-.166
	41	2	.002	12.200	1.015	2.500
	42	2	.018	6.928	1.745	1.401
	43	2	.060	7.884	-1.744	.582
	44	2	.003	11.164	-2.742	-.868
	45	2	.003	11.607	-2.641	-2.026
	46	1	.052	8.116	.822	-2.077

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

THREE GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

	Case Number	Second Highest Group			Discriminant Scores	
		Group	P(G=g   D=d)	Squared Mahalanobis Distance to Centroid	Function 1	Function 2
Original	47	1	.178	6.307	.321	-2.426
	48	2	.205	2.806	-1.044	-.633
	49	2	.019	7.079	-1.950	-1.735
	50	2	.002	12.161	2.150	2.155
	51	2	.003	11.208	-2.707	-1.505
	52	2	.003	11.229	.575	2.383
	53	2	.205	2.806	-1.044	-.633
	54	2	.003	16.927	-2.473	-3.706
	55	2	.462	1.354	.998	.125
	56	2	.001	16.224	-3.367	-1.680
	57	2	.002	12.161	2.150	2.155
	58	2	.078	7.048	-.490	1.454
	59	2	.006	12.017	-2.654	.233
	60	2	.392	2.420	-.701	-.111
	61 <sup>u</sup>	1	.027	9.300	1.073	-1.903
	62 <sup>u</sup>	2	.002	11.861	1.772	2.270
	63 <sup>u</sup>	3	.016	10.885	1.544	-1.670
	64 <sup>u</sup>	1	.058	8.148	.791	-2.193
	65 <sup>u</sup>	2	.011	12.310	-1.972	-3.357
	66 <sup>u</sup>	2	.002	11.828	1.582	2.327
	67 <sup>u</sup>	2	.110	3.845	.615	.993
	68 <sup>u</sup>	1	.406	3.536	-.186	-2.021
	69 <sup>u</sup>	1	.434	2.770	-.282	-1.616
	70 <sup>u</sup>	2	.446	1.294	-.538	-1.037
	71 <sup>u</sup>	2	.310	1.984	.870	.414
	72 <sup>u</sup>	2	.083	4.189	1.591	.821
	73 <sup>u</sup>	2	.017	8.284	-1.915	-2.372
	74 <sup>u</sup>	2	.302	2.504	.302	.587
	75 <sup>u</sup>	2	.007	8.916	1.081	1.979
	76 <sup>u</sup>	2	.003	11.177	-2.610	-1.911
	77 <sup>u</sup>	2	.310	1.984	.870	.414
	78 <sup>u</sup>	2	.046	10.779	3.545	.478
	79 <sup>u</sup>	2	.007	11.260	-.054	2.324
	80 <sup>u</sup>	2	.383	3.090	-.327	.527
	81 <sup>u</sup>	3	.031	11.825	2.362	-1.668
	82 <sup>u</sup>	1	.434	2.770	-.282	-1.616
	83 <sup>u</sup>	2	.007	8.800	1.648	1.806
	84 <sup>u</sup>	3	.057	7.383	1.288	-1.091
	85 <sup>u</sup>	2	.003	11.663	.795	2.442
	86 <sup>u</sup>	2	.290	3.241	-.076	.702
	87 <sup>u</sup>	2	.003	11.229	.575	2.383
	88 <sup>u</sup>	3	.160	5.071	.087	-.225
	89 <sup>u</sup>	2	.007	8.916	1.081	1.979
	90 <sup>u</sup>	2	.082	4.315	.645	1.109
	91 <sup>u</sup>	2	.082	6.660	-1.585	.409
	92 <sup>u</sup>	2	.000	39.245	-5.342	-2.959

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

### THREE GROUP DISCRIMINANT ANALYSIS

#### Casewise Statistics

	Case Number	Second Highest Group			Discriminant Scores	
		Group	P(G=g   D=d)	Squared Mahalanobis Distance to Centroid	Function 1	Function 2
Original	93 <sup>u</sup>	2	.462	1.354	.998	.125
	94 <sup>u</sup>	2	.033	6.163	.549	1.514
	95 <sup>u</sup>	1	.007	13.257	1.641	-2.075
	96 <sup>u</sup>	1	.174	7.244	-.771	1.164
	97 <sup>u</sup>	2	.009	8.102	1.239	1.805
	98 <sup>u</sup>	2	.279	3.727	-.265	.759
	99 <sup>u</sup>	1	.423	2.731	-.415	-.573
	100 <sup>u</sup>	3	.274	4.112	.148	.007

For the original data, squared Mahalanobis distance is based on canonical functions.

For the cross-validated data, squared Mahalanobis distance is based on observations.



THREE GROUP DISCRIMINANT ANALYSIS

Casewise Statistics

	Case Number	Second Highest Group			Discriminant Scores	
		Group	P(G=g   D=d)	Squared Mahalanobis Distance to Centroid	Function 1	Function 2
Cross-validated <sup>a</sup>	1	2	.216	3.983		
	2	2	.028	7.485		
	3	2	.004	10.259		
	4	2	.008	9.463		
	5	2	.066	7.036		
	6	2	.048	5.388		
	7	2	.000	28.362		
	8	2	.193	3.541		
	9	3	.024	8.882		
	10	2	.086	4.261		
	11	2	.019	8.183		
	12	2	.010	7.963		
	13	3	.263	8.092		
	14	2	.019	6.807		
	15	1	.061	8.017		
	16	2	.007	8.657		
	17	2	.003	11.056		
	18	2	.047	4.999		
	19	2	.047	4.999		
	20	2	.359	2.179		
	21	2	.072	4.300		
	22	2	.055	5.993		
	23	2	.099	3.863		
	24	2	.163	3.042		
	25	2	.007	12.146		
	26	2	.066	7.036		
	27	2	.000	19.317		
	28	2	.005	9.341		
	29	1	.137	8.744		
	30	2	.091	4.613		
	31	3	.019	10.811		
	32	2	.008	11.259		
	33	3	.044	11.947		
	34	2	.003	11.589		
	35	2	.327	1.995		
	36	2	.028	7.485		
	37	2	.001	12.976		
	38	2	.072	4.300		
	39	2	.099	6.974		
	40	3	.170	5.027		
	41	2	.002	12.138		
	42	2	.019	6.807		
	43	2	.076	7.865		
	44	2	.004	11.113		
	45	2	.003	11.587		
	46	1	.061	8.017		

For the original data, squared Mahalanobis distance is based on canonical functions.  
 For the cross-validated data, squared Mahalanobis distance is based on observations.

### THREE GROUP DISCRIMINANT ANALYSIS

#### Casewise Statistics

	Case Number	Second Highest Group			Discriminant Scores	
		Group	P(G=g   D=d)	Squared Mahalanobis Distance to Centroid	Function 1	Function 2
Cross-validated <sup>a</sup>	47	1	.221	6.218		
	48	2	.217	2.784		
	49	2	.020	6.958		
	50	2	.002	12.098		
	51	2	.003	11.150		
	52	2	.004	11.153		
	53	2	.217	2.784		
	54	2	.003	18.063		
	55	2	.434	1.602		
	56	2	.001	16.631		
	57	2	.002	12.098		
	58	2	.099	6.974		
	59	2	.007	12.146		
	60	2	.328	2.925		

For the original data, squared Mahalanobis distance is based on canonical functions.

For the cross-validated data, squared Mahalanobis distance is based on observations.

u. Unselected case

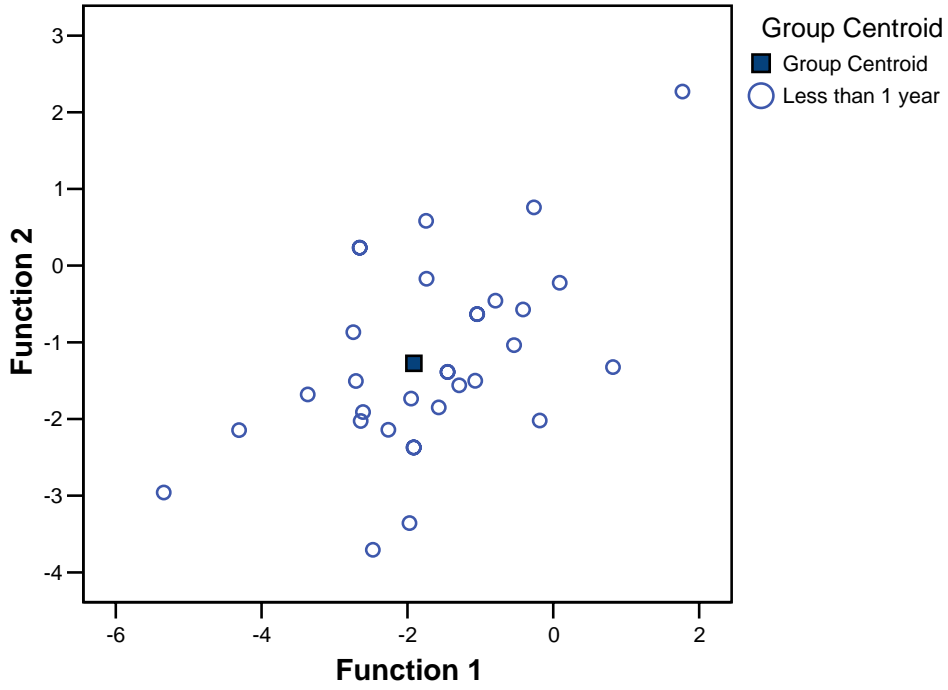
\*\* . Misclassified case

a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

## Separate-Groups Graphs

Canonical Discriminant Functions

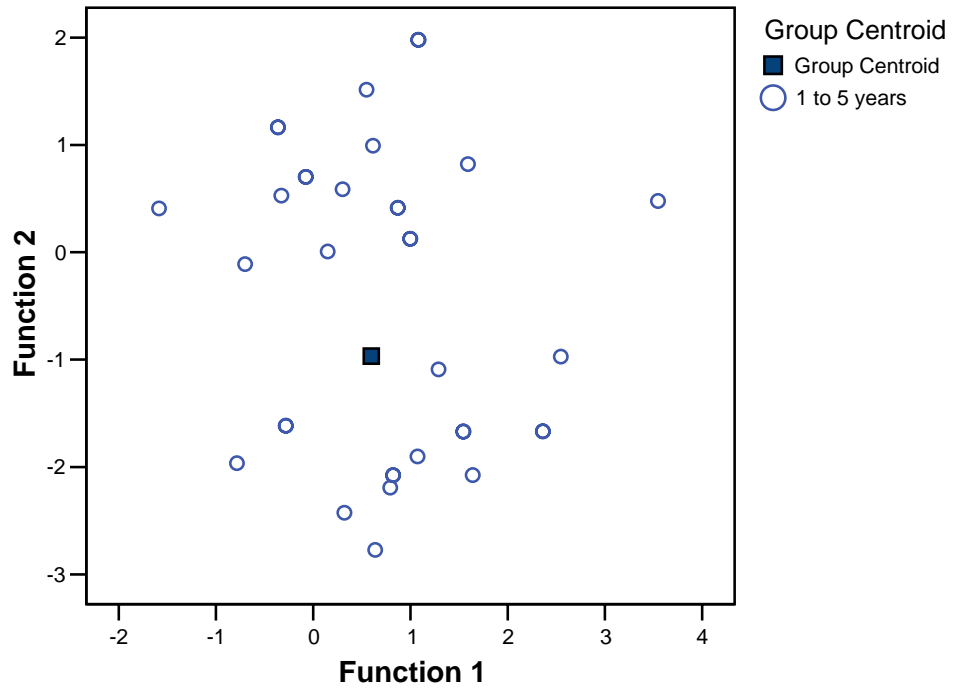
X1 - Customer Type = Less than 1 year



# THREE GROUP DISCRIMINANT ANALYSIS

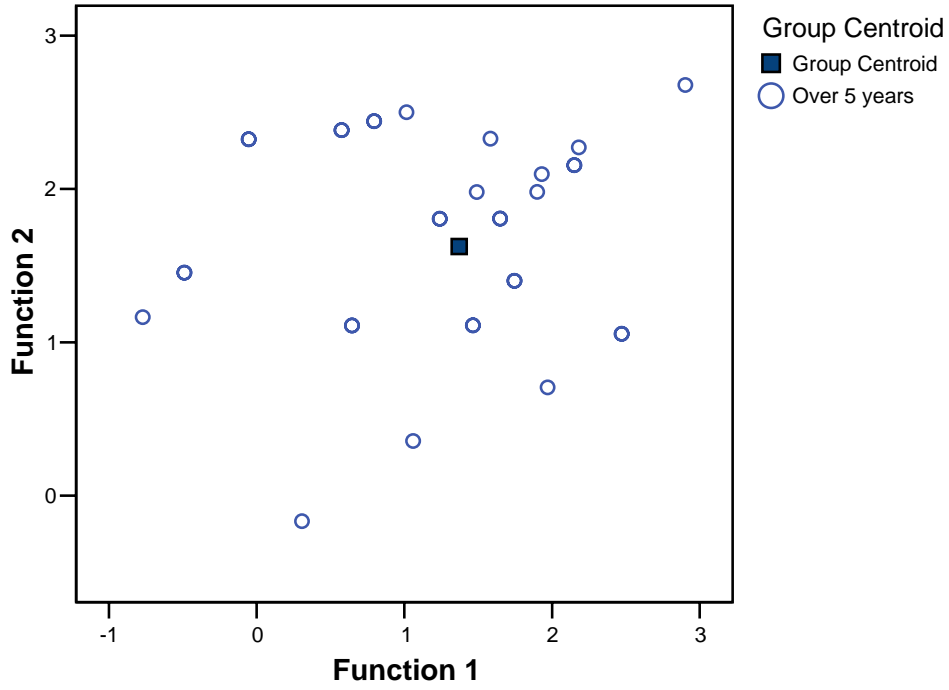
## Canonical Discriminant Functions

### X1 - Customer Type = 1 to 5 years



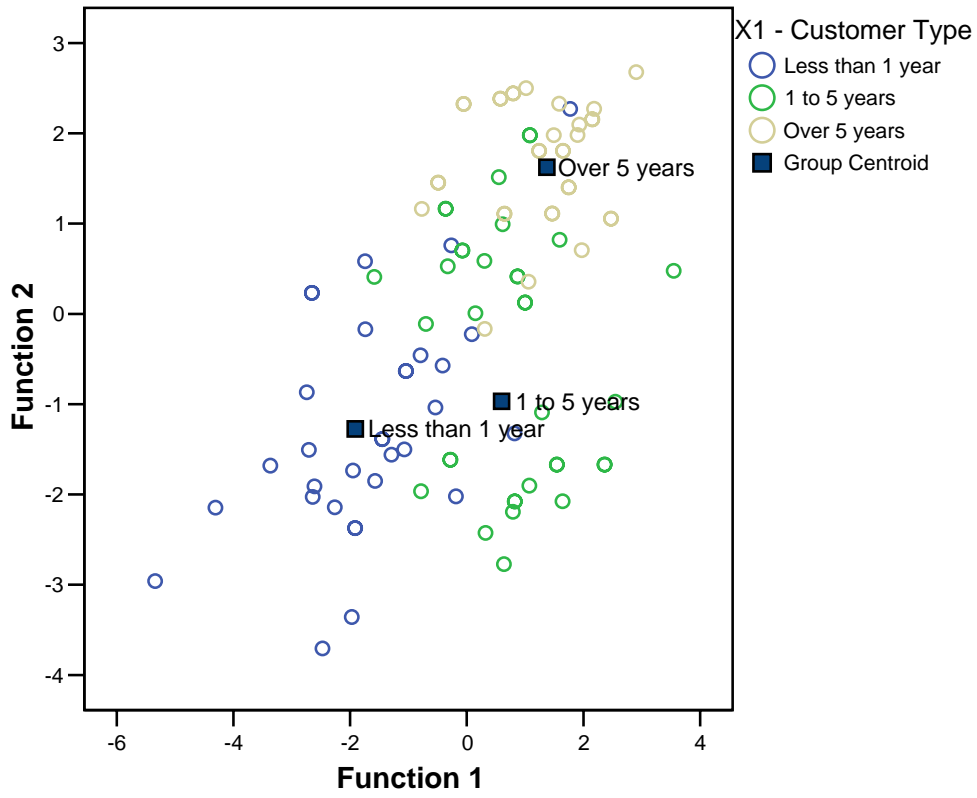
**Canonical Discriminant Functions**

**X1 - Customer Type = Over 5 years**



# THREE GROUP DISCRIMINANT ANALYSIS

## Canonical Discriminant Functions



THREE GROUP DISCRIMINANT ANALYSIS

Classification Results<sup>b,c,d</sup>

				Predicted Group	
				Less than 1 year	1 to 5 years
Cases Selected	Original	Count	X1 - Customer Type Less than 1 year	21	1
			1 to 5 years	2	7
			Over 5 years	0	1
	%		Less than 1 year	95.5	4.5
			1 to 5 years	15.4	53.8
			Over 5 years	.0	4.0
Cross-validated <sup>a</sup>	Count		Less than 1 year	21	1
			1 to 5 years	2	7
			Over 5 years	0	1
	%		Less than 1 year	95.5	4.5
			1 to 5 years	15.4	53.8
			Over 5 years	.0	4.0
Cases Not Selected	Original	Count	Less than 1 year	5	3
			1 to 5 years	1	9
			Over 5 years	0	0
	%		Less than 1 year	50.0	30.0
			1 to 5 years	4.5	40.9
			Over 5 years	.0	.0

### THREE GROUP DISCRIMINANT ANALYSIS

#### Classification Results<sup>b,c,d</sup>

				Predicted	
				Over 5 years	Total
Cases Selected	Original	Count	X1 - Customer Type		
			Less than 1 year	0	22
			1 to 5 years	4	13
	Over 5 years	24	25		
	%	Less than 1 year	.0	100.0	
		1 to 5 years	30.8	100.0	
Over 5 years		96.0	100.0		
Cases Not Selected	Cross-validated <sup>a</sup>	Count	Less than 1 year	0	22
			1 to 5 years	4	13
			Over 5 years	24	25
	%	Less than 1 year	.0	100.0	
		1 to 5 years	30.8	100.0	
		Over 5 years	96.0	100.0	
Cases Not Selected	Original	Count	Less than 1 year	2	10
			1 to 5 years	12	22
			Over 5 years	8	8
	%	Less than 1 year	20.0	100.0	
		1 to 5 years	54.5	100.0	
		Over 5 years	100.0	100.0	

a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

b. 86.7% of selected original grouped cases correctly classified.

c. 55.0% of unselected original grouped cases correctly classified.

d. 86.7% of selected cross-validated grouped cases correctly classified.



## Logistic Regression

### Case Processing Summary

Unweighted Cases <sup>a</sup>		N	Percent
Selected Cases	Included in Analysis	60	60.0
	Missing Cases	0	.0
	Total	60	60.0
Unselected Cases		40	40.0
Total		100	100.0

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

### Dependent Variable Encoding

Original Value	Internal Value
USA/North America	0
Outside North America	1

## Block 0: Beginning Block

### Iteration History<sup>a,b,c</sup>

Iteration	-2 Log likelihood	Coefficients
		Constant
Step 1	82.108	.267
0 2	82.108	.268
3	82.108	.268

a. Constant is included in the model.

b. Initial -2 Log Likelihood: 82.108

c. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

### Classification Table<sup>c,d</sup>

			Predicted			
			Selected Cases <sup>a</sup>			Percentage Correct
			X4 - Region			
USA/North America	Outside North America					
Observed	X4 - Region					
	USA/North America		0	26	.0	
	Outside North America		0	34	100.0	
Overall Percentage					56.7	

LOGISTIC REGRESSION

Classification Table<sup>c,d</sup>

Observed			Predicted			
			Unselected Cases <sup>b</sup>			Percentage Correct
			X4 - Region			
			USA/North America	Outside North America		
Step 0	X4 - Region	USA/North America	0	13	.0	
		Outside North America	0	27	100.0	
Overall Percentage					67.5	

- a. Selected cases Sample Split -- 60/40 EQ 0
- b. Unselected cases Sample Split -- 60/40 NE 0
- c. Constant is included in the model.
- d. The cut value is .500

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	.268	.261	1.060	1	.303	1.308

Variables not in the Equation

Step	Variables	Score	df	Sig.
0	x6	11.925	1	.001
	x7	2.052	1	.152
	x8	1.609	1	.205
	x9	.866	1	.352
	x10	.791	1	.374
	x11	18.323	1	.000
	x12	8.622	1	.003
	x13	21.330	1	.000
	x14	.465	1	.495
	x15	.614	1	.433
	x16	.090	1	.764
	x17	21.204	1	.000
	x18	.157	1	.692
Overall Statistics		42.350	13	.000

Block 1: Method = Forward Stepwise (Wald)

## LOGISTIC REGRESSION

### Iteration History<sup>a,b,c,d,e</sup>

Iteration	-2 Log likelihood	Coefficients		
		Constant	x13	x17
Step 1	58.793	-4.920	.782	
1 2	57.040	-6.589	1.058	
3	56.972	-6.988	1.125	
4	56.971	-7.008	1.129	
5	56.971	-7.008	1.129	
Step 2	46.868	-7.047	.577	.798
2 2	41.251	-10.722	.848	1.302
3	40.073	-13.089	1.009	1.664
4	39.962	-14.058	1.071	1.822
5	39.960	-14.190	1.079	1.844
6	39.960	-14.192	1.079	1.844
7	39.960	-14.192	1.079	1.844

a. Method: Forward Stepwise (Wald)

b. Constant is included in the model.

c. Initial -2 Log Likelihood: 82.108

d. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

e. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

### Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step 1 Step	25.136	1	.000
Block	25.136	1	.000
Model	25.136	1	.000
Step 2 Step	17.011	1	.000
Block	42.148	2	.000
Model	42.148	2	.000

### Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	56.971 <sup>a</sup>	.342	.459
2	39.960 <sup>b</sup>	.505	.677

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

b. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

### Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	17.329	8	.027
2	5.326	8	.722

LOGISTIC REGRESSION

Contingency Table for Hosmer and Lemeshow Test

		X4 - Region = USA/North America		X4 - Region = Outside North America		Total
		Observed	Expected	Observed	Expected	
Step 1	1	4	5.263	2	.737	6
	2	6	4.900	0	1.100	6
	3	5	4.458	1	1.542	6
	4	4	3.675	2	2.325	6
	5	0	2.876	6	3.124	6
	6	3	2.010	3	3.990	6
	7	4	1.479	3	5.521	7
	8	0	.742	6	5.258	6
	9	0	.483	7	6.517	7
	10	0	.113	4	3.887	4
Step 2	1	6	5.752	0	.248	6
	2	4	5.251	2	.749	6
	3	5	4.927	1	1.073	6
	4	5	4.634	2	2.366	7
	5	5	3.372	1	2.628	6
	6	1	1.554	5	4.446	6
	7	0	.291	6	5.709	6
	8	0	.131	6	5.869	6
	9	0	.084	7	6.916	7
	10	0	.006	4	3.994	4

Classification Table<sup>c</sup>

			Predicted		
			Selected Cases <sup>a</sup>		
			X4 - Region		Percentage Correct
Observed	USA/North America	Outside North America			
Step 1	X4 - Region	USA/North America	19	7	73.1
		Outside North America	9	25	73.5
	Overall Percentage				73.3
Step 2	X4 - Region	USA/North America	25	1	96.2
		Outside North America	6	28	82.4
	Overall Percentage				88.3

LOGISTIC REGRESSION

Classification Table<sup>c</sup>

Observed			Predicted		
			Unselected Cases <sup>d</sup>		
			X4 - Region		Percentage Correct
USA/North America	Outside North America				
Step 1	X4 - Region	USA/North America	4	9	30.8
		Outside North America	1	26	96.3
	Overall Percentage				75.0
Step 2	X4 - Region	USA/North America	9	4	69.2
		Outside North America	2	25	92.6
	Overall Percentage				85.0

- a. Selected cases Sample Split -- 60/40 EQ 0
- b. Unselected cases Sample Split -- 60/40 NE 0
- c. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	x13	1.129	.287	15.471	1	.000	3.092
	Constant	-7.008	1.836	14.570	1	.000	.001
Step 2	x13	1.079	.357	9.115	1	.003	2.942
	x17	1.844	.639	8.331	1	.004	6.321
	Constant	-14.192	3.712	14.614	1	.000	.000

Variables in the Equation

		95.0% C.I. for EXP(B)	
		Lower	Upper
Step 1	x13	1.762	5.426
	Constant		
Step 2	x13	1.460	5.928
	x17	1.807	22.110
	Constant		

- a. Variable(s) entered on step 1: x13.
- b. Variable(s) entered on step 2: x17.

Correlation Matrix

		Constant	x13	x17
Step 1	Constant	1.000	-.984	
	x13	-.984	1.000	
Step 2	Constant	1.000	-.750	-.808
	x13	-.750	1.000	.231
	x17	-.808	.231	1.000

LOGISTIC REGRESSION

Variables not in the Equation

			Score	df	Sig.
Step 1	Variables	x6	4.859	1	.028
		x7	.132	1	.716
		x8	.007	1	.931
		x9	1.379	1	.240
		x10	.129	1	.719
		x11	6.154	1	.013
		x12	2.745	1	.098
		x14	.640	1	.424
		x15	.344	1	.557
		x16	2.528	1	.112
		x17	13.723	1	.000
		x18	1.206	1	.272
	Overall Statistics		27.315	12	.007
Step 2	Variables	x6	.656	1	.418
		x7	3.501	1	.061
		x8	.006	1	.937
		x9	.693	1	.405
		x10	.091	1	.762
		x11	3.409	1	.065
		x12	.849	1	.357
		x14	2.327	1	.127
		x15	.026	1	.873
		x16	.010	1	.919
		x18	2.907	1	.088
			Overall Statistics		20.216

Step number: 1

Observed Groups and Predicted Probabilities

