

# HATCO MANOVA Analysis of Usage and Satisfaction Levels across Buying Situations and Industry Type

Obs	X9	X10	X13	X14
1	32	4.2	1	1
2	43	4.3	0	1
3	48	5.2	1	2
4	32	3.9	1	1
5	58	6.8	1	3
6	45	4.4	1	2
7	46	5.8	1	1
8	44	4.3	0	2
9	63	5.4	1	3
10	54	5.4	0	2
11	32	4.3	0	1
12	47	5.0	1	2
13	39	4.4	0	1
14	38	5.0	1	1
15	54	5.9	0	3
16	49	4.7	0	3
17	38	4.4	1	2
18	40	5.6	0	2
19	54	5.9	1	3
20	55	6.0	0	3
21	41	4.5	0	2
22	35	3.3	0	1
23	55	5.2	0	3
24	36	3.7	0	1
25	49	4.9	0	2
26	49	5.9	1	3
27	36	3.7	0	1
28	54	5.8	1	3
29	49	5.4	1	3
30	46	5.1	0	2
31	43	3.3	0	1
32	53	5.0	0	3
33	60	6.1	0	3
34	47	3.8	0	1
35	35	4.1	0	1
36	39	3.6	1	1

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Obs	X9	X10	X13	X14
37	44	4.8	1	2
38	46	5.1	1	3
39	29	3.9	1	1
40	28	3.3	1	1
41	40	3.7	1	1
42	58	6.7	1	3
43	53	5.9	0	3
44	48	4.8	0	2
45	38	3.2	1	1
46	54	6.0	0	3
47	55	4.9	1	3
48	43	4.7	1	2
49	57	4.9	1	3
50	53	3.8	1	3
51	41	5.0	0	2
52	53	5.2	1	2
53	50	5.5	0	2
54	32	3.7	1	1
55	39	3.7	0	1
56	47	4.2	1	2
57	62	6.2	0	2
58	65	6.0	0	3
59	46	5.6	1	3
60	50	5.0	1	2
61	54	4.8	1	3
62	60	6.1	0	3
63	47	5.3	1	3
64	36	4.2	1	2
65	40	3.4	1	1
66	45	4.9	0	2
67	59	6.0	0	3
68	46	4.5	0	2
69	58	4.3	0	3
70	49	4.8	1	2
71	50	5.4	1	2
72	55	3.9	1	3

# HATCO MANOVA Analysis of Usage and Satisfaction Levels across Buying Situations and Industry Type

Obs	X9	X10	X13	X14
73	51	4.9	0	3
74	60	5.1	1	3
75	41	4.1	0	1
76	49	5.2	1	2
77	42	5.1	0	2
78	47	5.1	1	3
79	39	3.3	1	1
80	56	5.1	0	3
81	59	4.5	0	3
82	47	5.6	1	2
83	41	4.1	0	1
84	37	4.4	0	1
85	53	5.6	0	2
86	43	3.7	1	1
87	51	5.5	0	2
88	36	4.3	0	1
89	34	4.0	1	1
90	60	6.1	0	3
91	49	4.4	1	2
92	39	5.5	0	2
93	43	5.2	1	2
94	36	3.6	0	1
95	31	4.0	1	1
96	25	3.4	1	1
97	60	5.2	1	3
98	38	3.7	0	1
99	42	4.3	0	1
100	33	4.4	0	1

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## The GLM Procedure

Class Level Information		
Class	Levels	Values
X14	3	1 2 3
X13	2	0 1

Number of Observations Read	100
Number of Observations Used	100

# HATCO MANOVA Analysis of Usage and Satisfaction Levels across Buying Situations and Industry Type

## The GLM Procedure

**Dependent Variable: X9 X9 - Usage Level**

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	5637.236111	1127.447222	44.87	<.0001
Error	94	2361.763889	25.125148		
Corrected Total	99	7999.000000			

R-Square	Coeff Var	Root MSE	X9 Mean
0.704743	10.87310	5.012499	46.10000

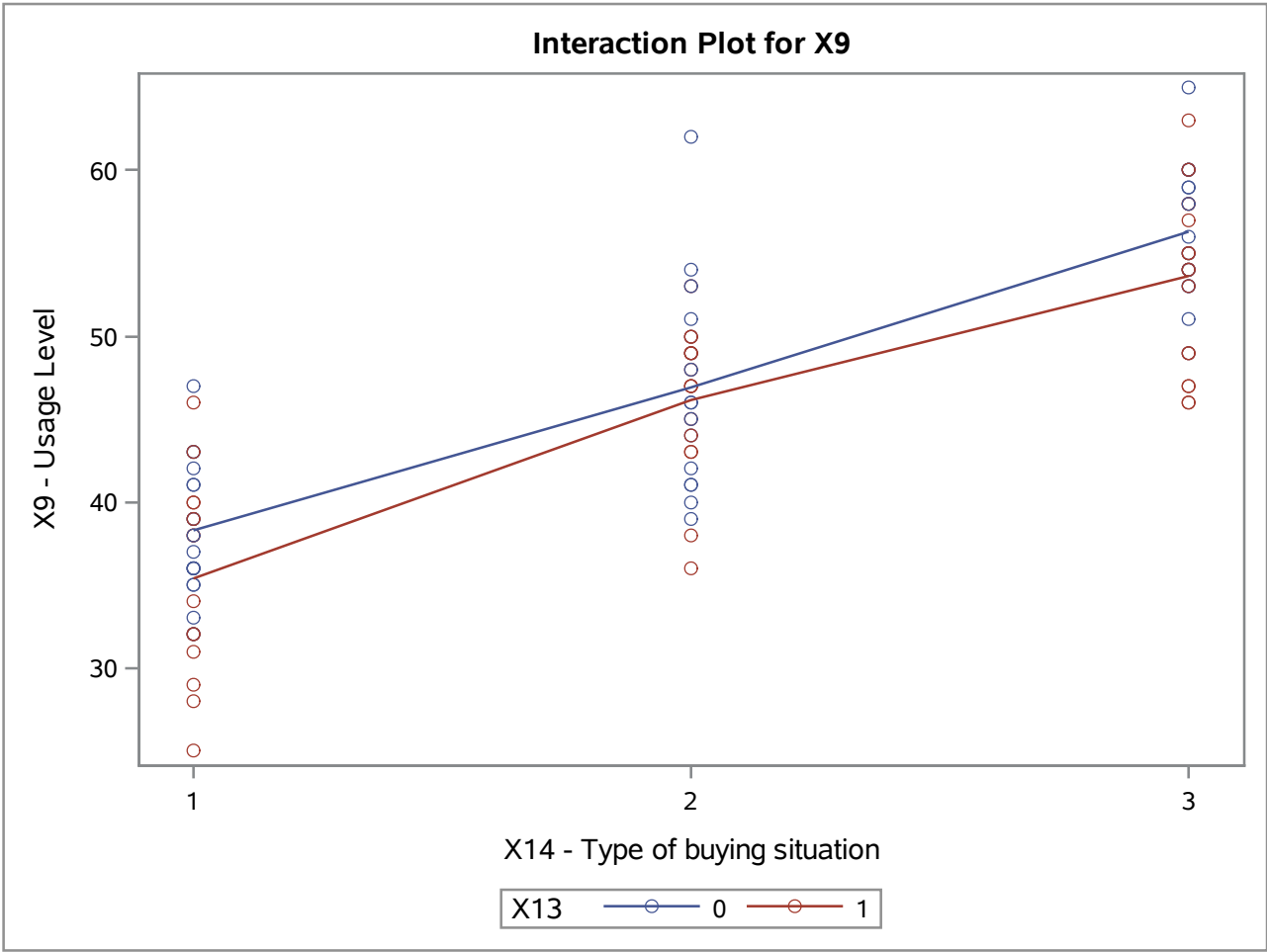
Source	DF	Type I SS	Mean Square	F Value	Pr > F
X14	2	5498.766544	2749.383272	109.43	<.0001
X13	1	116.787771	116.787771	4.65	0.0336
X14*X13	2	21.681796	10.840898	0.43	0.6508

Source	DF	Type III SS	Mean Square	F Value	Pr > F
X14	2	5580.664038	2790.332019	111.06	<.0001
X13	1	114.019231	114.019231	4.54	0.0358
X14*X13	2	21.681796	10.840898	0.43	0.6508

HATCO MANOVA Analysis of Usage and Satisfaction Levels across Buying Situations and Industry Type

The GLM Procedure

Dependent Variable: X9 X9 - Usage Level



# HATCO MANOVA Analysis of Usage and Satisfaction Levels across Buying Situations and Industry Type

## The GLM Procedure

**Dependent Variable: X10 X10 - Satisfaction Level**

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	40.03076111	8.00615222	23.20	<.0001
Error	94	32.43513889	0.34505467		
Corrected Total	99	72.46590000			

R-Square	Coeff Var	Root MSE	X10 Mean
0.552408	12.31217	0.587414	4.771000

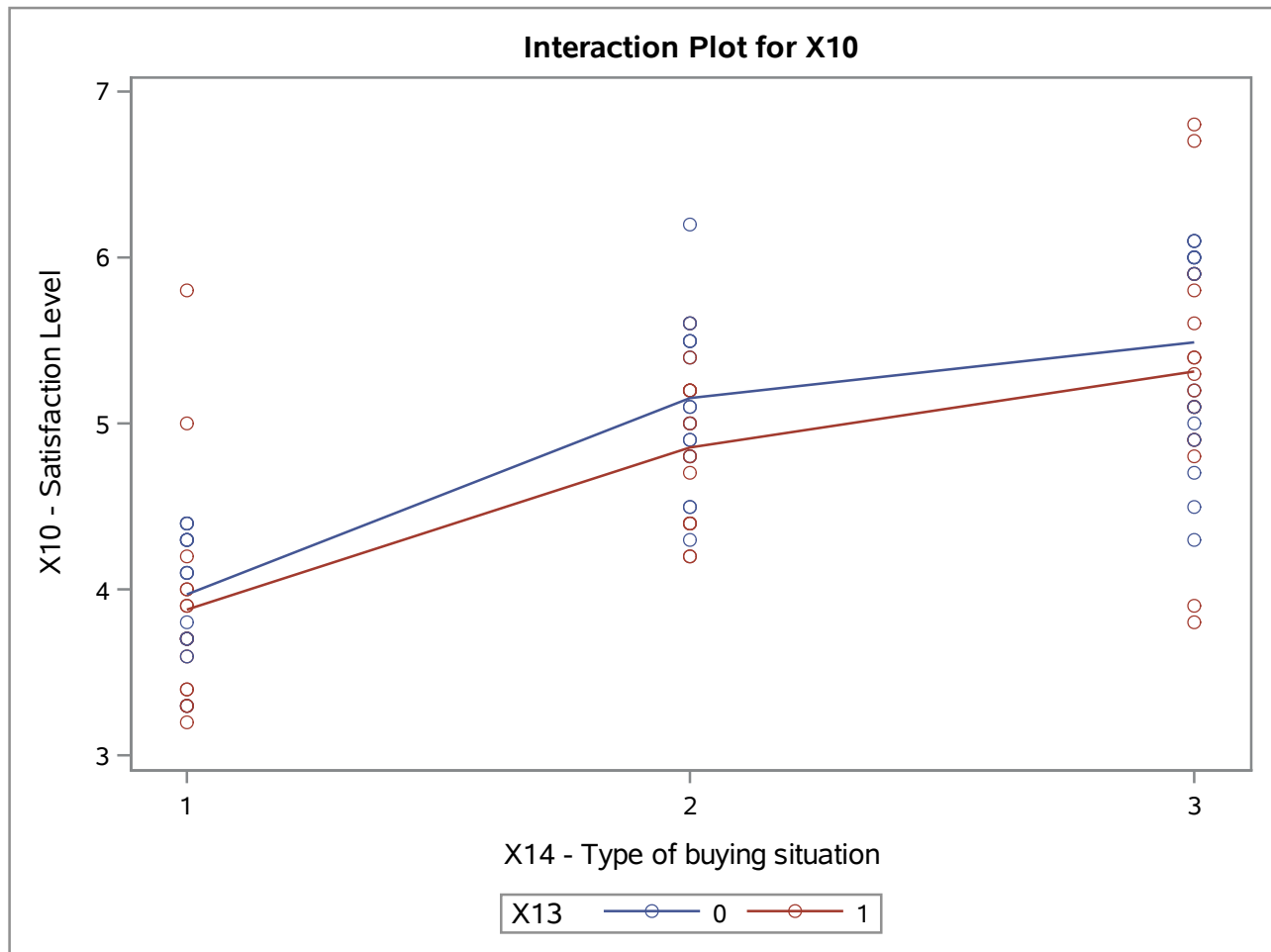
Source	DF	Type I SS	Mean Square	F Value	Pr > F
X14	2	39.00680074	19.50340037	56.52	<.0001
X13	1	0.85382943	0.85382943	2.47	0.1191
X14*X13	2	0.17013095	0.08506548	0.25	0.7820

Source	DF	Type III SS	Mean Square	F Value	Pr > F
X14	2	39.25048056	19.62524028	56.88	<.0001
X13	1	0.87188034	0.87188034	2.53	0.1153
X14*X13	2	0.17013095	0.08506548	0.25	0.7820

# HATCO MANOVA Analysis of Usage and Satisfaction Levels across Buying Situations and Industry Type

The GLM Procedure

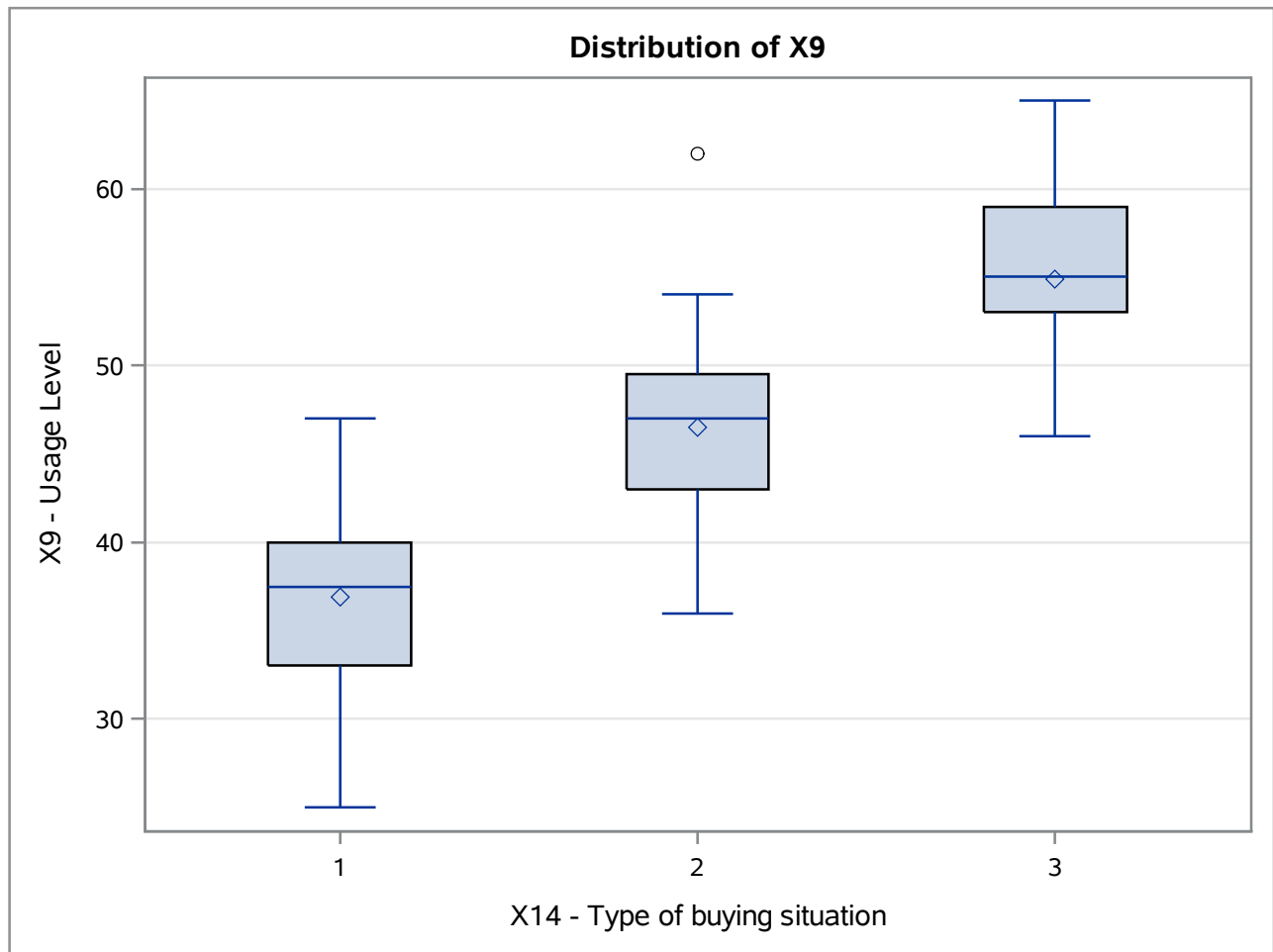
Dependent Variable: X10 X10 - Satisfaction Level





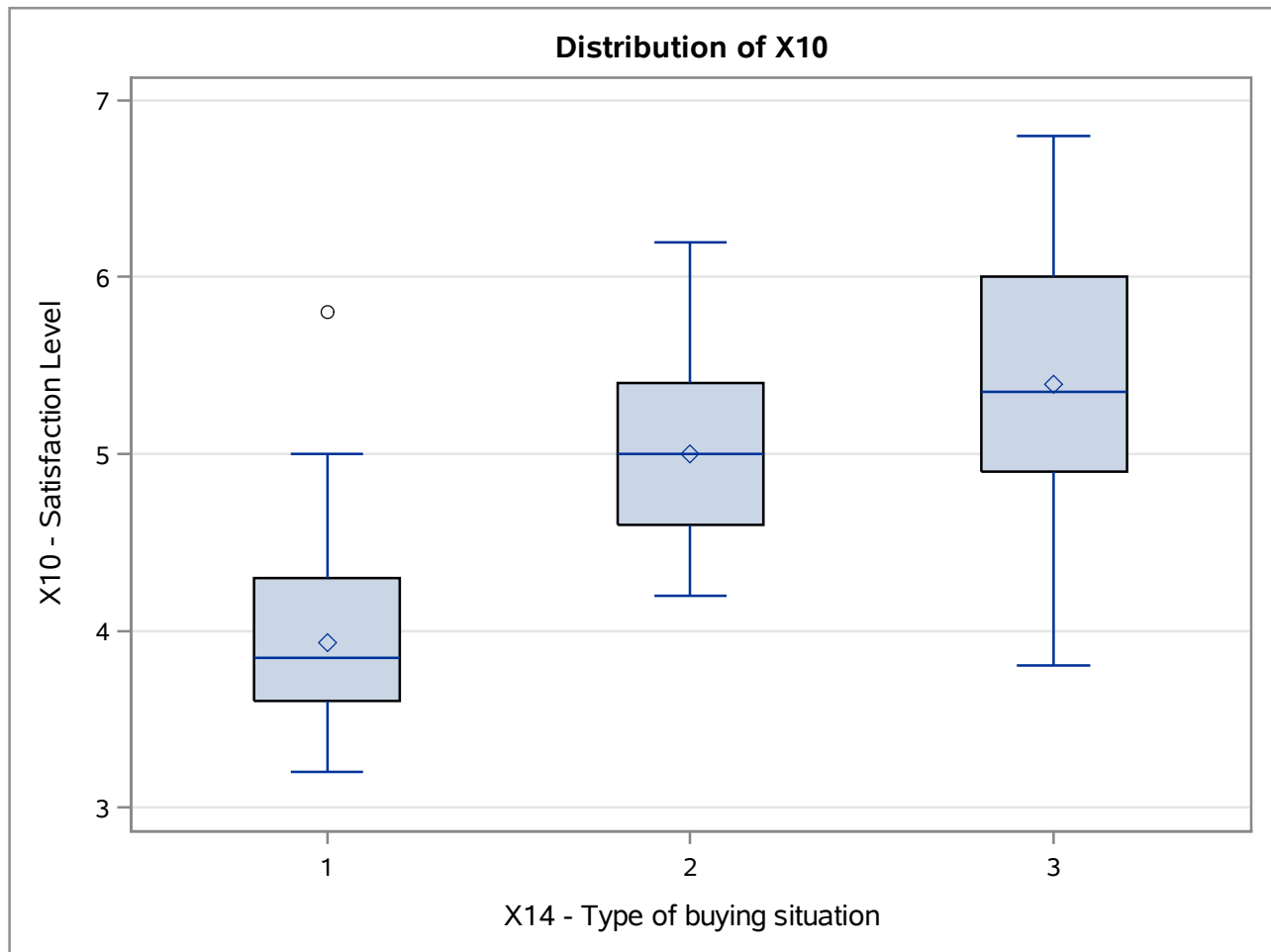
# HATCO MANOVA Analysis of Usage and Satisfaction Levels across Buying Situations and Industry Type

## The GLM Procedure



# HATCO MANOVA Analysis of Usage and Satisfaction Levels across Buying Situations and Industry Type

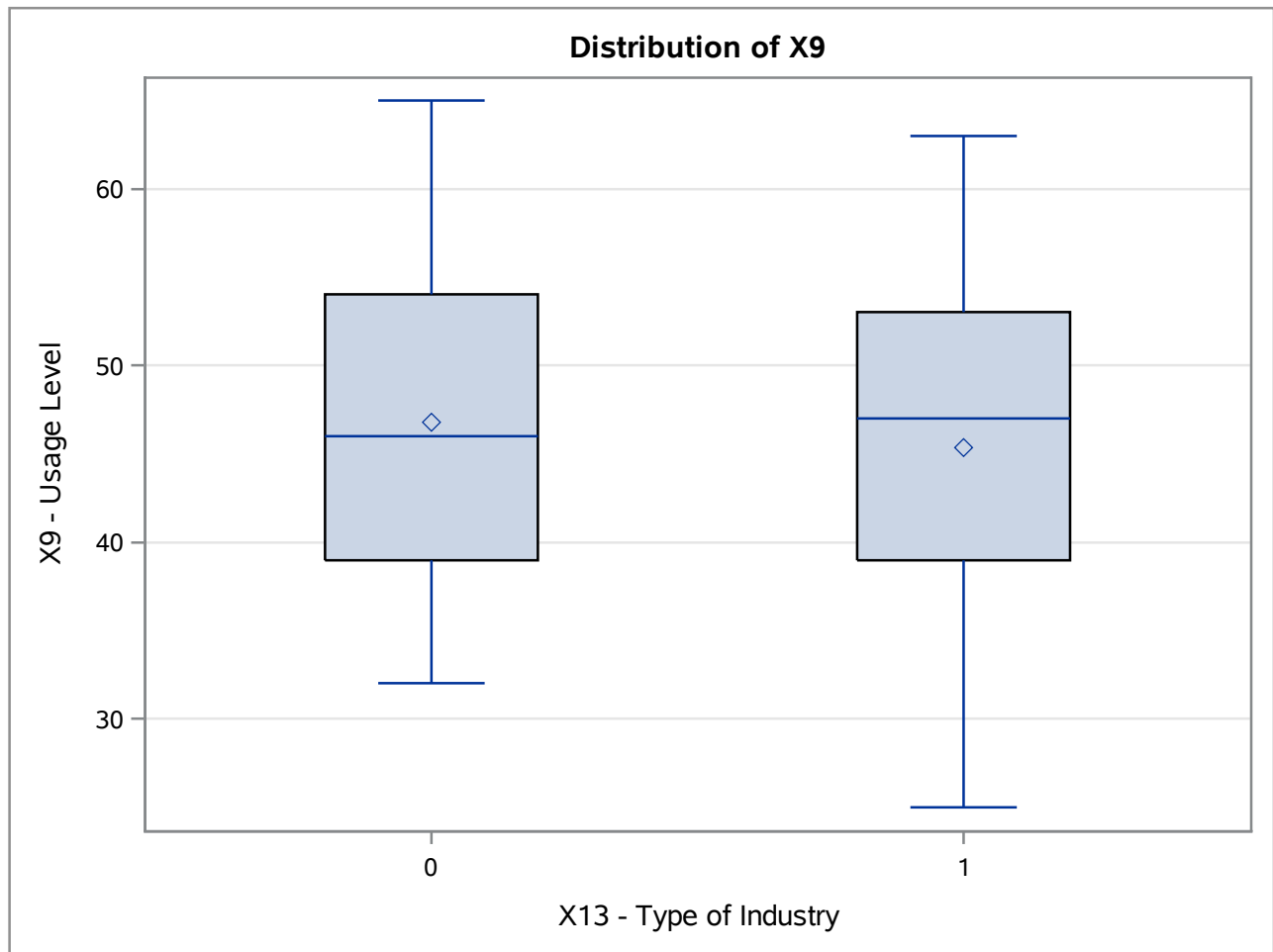
The GLM Procedure



Level of X14	N	X9		X10	
		Mean	Std Dev	Mean	Std Dev
1	34	36.9117647	5.05945049	3.92941176	0.53116762
2	32	46.5312500	5.30358597	5.00312500	0.48691549
3	34	54.8823529	4.87271131	5.39411765	0.71348108

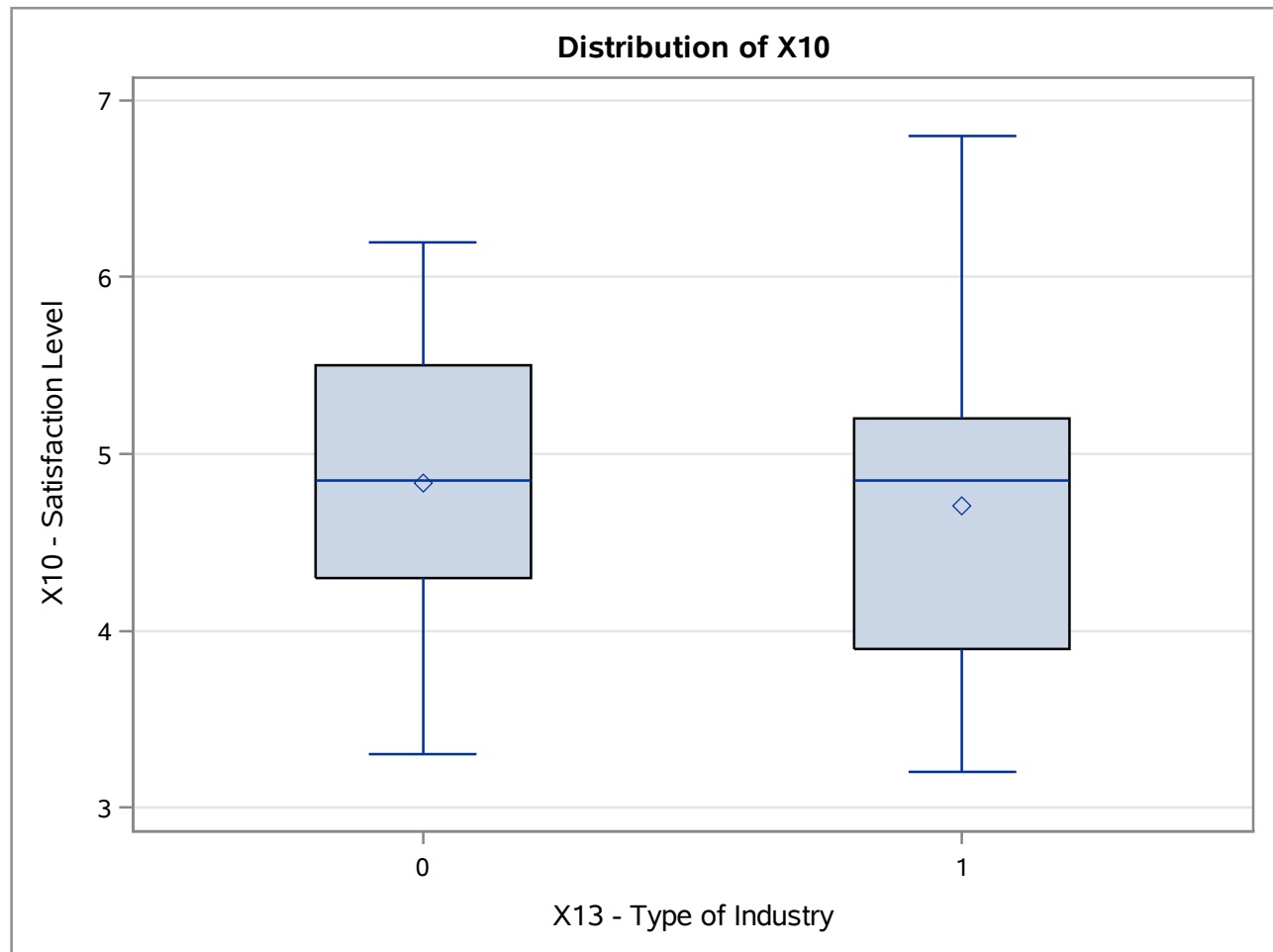
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The GLM Procedure



# HATCO MANOVA Analysis of Usage and Satisfaction Levels across Buying Situations and Industry Type

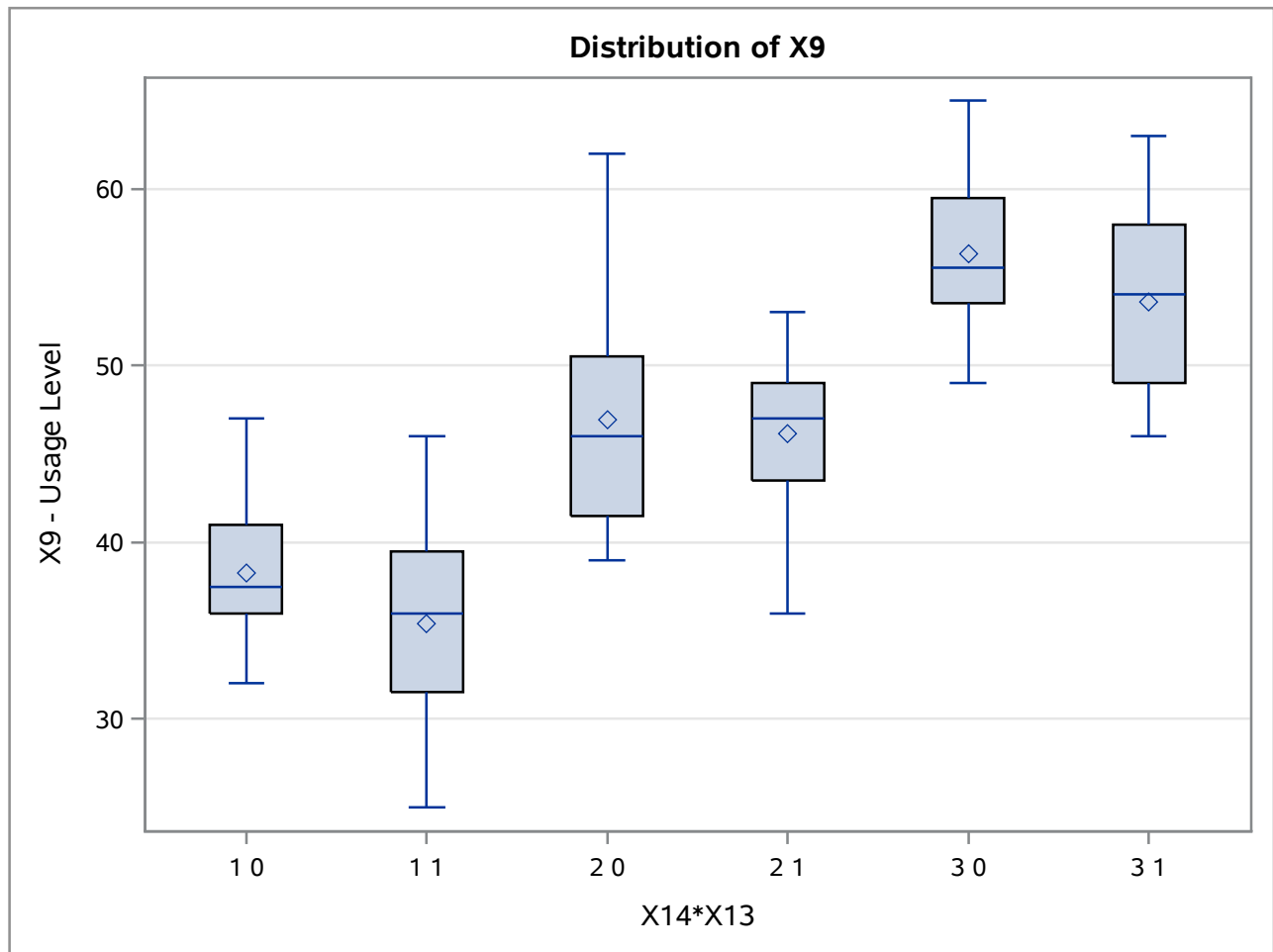
The GLM Procedure



Level of X13	N	X9		X10	
		Mean	Std Dev	Mean	Std Dev
0	50	46.8200000	8.84489937	4.83400000	0.83680881
1	50	45.3800000	9.16267940	4.70800000	0.87780803

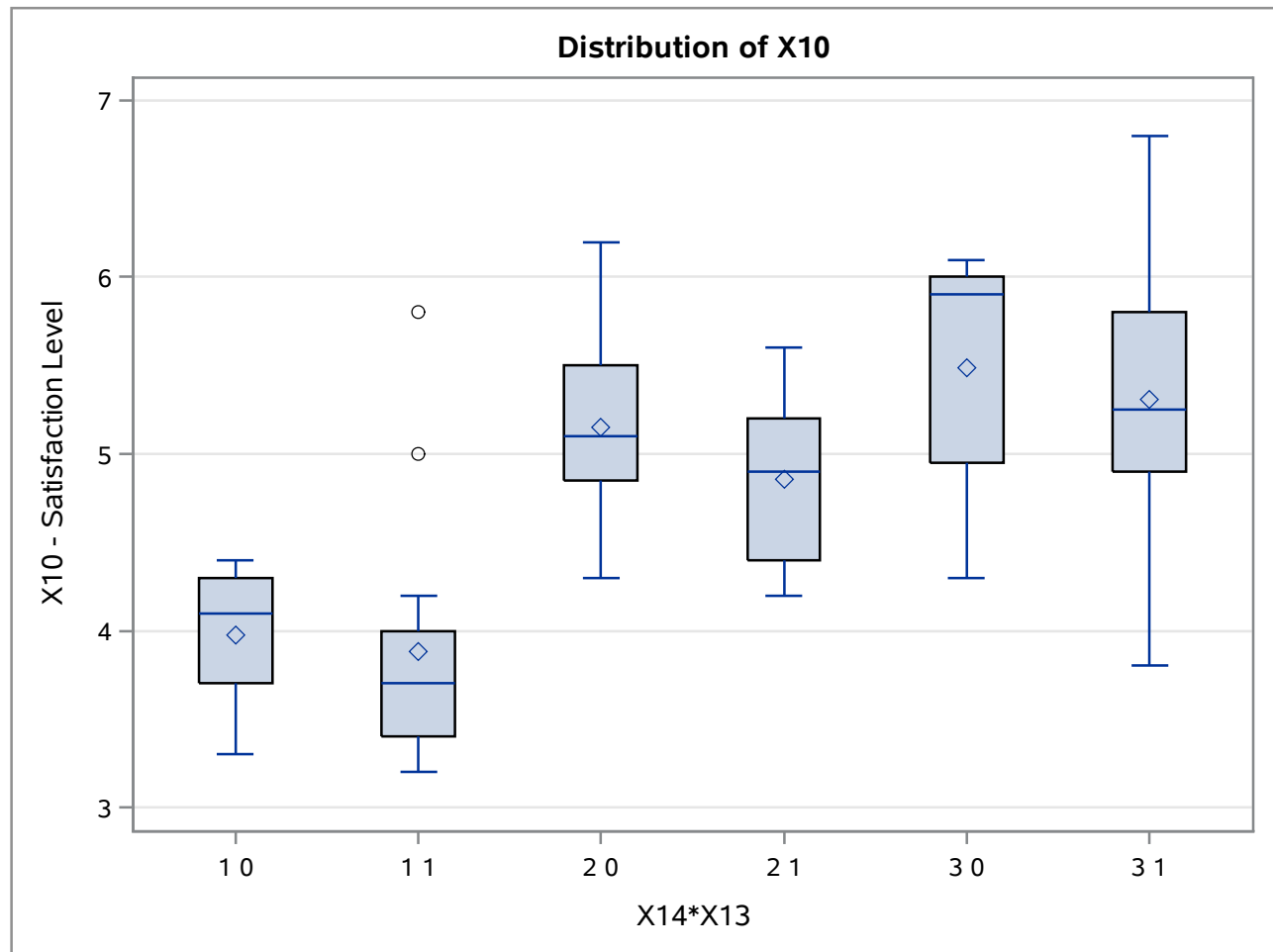
# HATCO MANOVA Analysis of Usage and Satisfaction Levels across Buying Situations and Industry Type

The GLM Procedure



# HATCO MANOVA Analysis of Usage and Satisfaction Levels across Buying Situations and Industry Type

## The GLM Procedure



Level of X14	Level of X13	N	X9		X10	
			Mean	Std Dev	Mean	Std Dev
1	0	18	38.2777778	3.92286743	3.97222222	0.37543004
1	1	16	35.3750000	5.84094741	3.88125000	0.67549365
2	0	16	46.9375000	6.13697808	5.15000000	0.50199602
2	1	16	46.1250000	4.48516072	4.85625000	0.43813050
3	0	16	56.3125000	4.09420322	5.48750000	0.65000000
3	1	18	53.6111111	5.25960062	5.31111111	0.77451229

# HATCO MANOVA Analysis of Usage and Satisfaction Levels across Buying Situations and Industry Type

## The GLM Procedure Multivariate Analysis of Variance

Characteristic Roots and Vectors of: E Inverse * H, where H = Type III SSCP Matrix for X14 E = Error SSCP Matrix			
Characteristic Root	Percent	Characteristic Vector V'EV=1	
		X9	X10
2.80089319	98.20	0.01636286	0.07326362
0.05130227	1.80	-0.01396572	0.16831540

MANOVA Tests for the Hypothesis of No Overall X14 Effect H = Type III SSCP Matrix for X14 E = Error SSCP Matrix  S=2 M=-0.5 N=45.5		
Statistic	Value	P-Value
Wilks' Lambda	0.25025729	<.0001
Pillai's Trace	0.78570273	<.0001
Hotelling-Lawley Trace	2.85219547	<.0001
Roy's Greatest Root	2.80089319	<.0001

Characteristic Roots and Vectors of: E Inverse * H, where H = Type III SSCP Matrix for X13 E = Error SSCP Matrix			
Characteristic Root	Percent	Characteristic Vector V'EV=1	
		X9	X10
0.05917768	100.00	0.01589246	0.07878518
0.00000000	0.00	-0.01449876	0.16580267

MANOVA Tests for the Hypothesis of No Overall X13 Effect H = Type III SSCP Matrix for X13 E = Error SSCP Matrix  S=1 M=0 N=45.5		
Statistic	Value	P-Value
Wilks' Lambda	0.94412865	0.0690
Pillai's Trace	0.05587135	0.0690
Hotelling-Lawley Trace	0.05917768	0.0690
Roy's Greatest Root	0.05917768	0.0690

# HATCO MANOVA Analysis of Usage and Satisfaction Levels across Buying Situations and Industry Type

## The GLM Procedure Multivariate Analysis of Variance

Characteristic Roots and Vectors of: E Inverse * H, where H = Type III SSCP Matrix for X14*X13 E = Error SSCP Matrix			
Characteristic Root	Percent	Characteristic Vector V'EV=1	
		X9	X10
0.01960387	98.41	-0.01856187	0.13495328
0.00031764	1.59	0.01087388	0.12443971

MANOVA Tests for the Hypothesis of No Overall X14*X13 Effect H = Type III SSCP Matrix for X14*X13 E = Error SSCP Matrix  S=2 M=-0.5 N=45.5		
Statistic	Value	P-Value
Wilks' Lambda	0.98046161	0.7643
Pillai's Trace	0.01954449	0.7661
Hotelling-Lawley Trace	0.01992151	0.7638
Roy's Greatest Root	0.01960387	0.7229