The SAS System

Obs	X5	X19	X20	X21
1	1	8.2	8.0	8.4
2	0	5.7	6.5	7.5
3	1	8.9	8.4	9.0
4	0	4.8	6.0	7.2
5	1	7.1	6.6	9.0
6	0	4.7	6.3	6.1
7	0	5.7	7.8	7.2
8	0	6.3	5.8	7.7
9	0	7.0	7.5	8.2
10	0	5.5	5.9	6.7
11	1	7.4	7.0	8.4
12	0	6.0	6.3	6.6
13	1	8.4	8.4	7.9
14	1	7.6	6.9	8.2
15	1	8.0	7.0	7.6
16	0	6.6	6.4	7.1
17	1	6.4	7.5	7.2
18	0	7.4	6.9	8.2
19	0	6.8	7.5	7.9
20	0	7.6	8.5	8.8
21	0	5.4	5.5	7.0
22	1	9.9	9.6	9.9
23	1	7.0	7.1	8.1
24	1	8.6	8.1	8.0
25	0	4.8	4.9	5.5
26	0	6.6	6.8	7.0
27	0	6.3	7.1	7.0
28	0	5.4	5.5	5.6
29	0	6.3	6.9	7.2
30	0	5.4	5.5	6.2
31	1	6.1	6.8	7.1
32	0	6.4	5.8	6.2
33	0	5.4	6.5	7.6
34	0	7.3	7.5	9.0
35	0	6.3	6.6	6.7
36	0	5.4	4.6	7.1
37	1	7.1	8.0	7.2
38	1	8.7	9.9	9.9
39	0	7.6	6.9	7.6
40	0	6.0	5.5	5.8
41	0	7.0	7.5	8.4

42	1	7.6	8.0	7.9
43	1	8.9	7.8	7.6
44	1	7.6	7.9	8.4
45	0	5.5	5.6	6.5
46	0	7.4	8.6	7.7
47	1	7.1	8.8	8.0
48	0	7.6	7.6	7.1
49	1	8.7	8.1	8.5
50	1	8.6	7.8	7.6
51	0	5.4	7.5	7.2
52	0	5.7	7.1	8.2
53	1	8.7	9.0	9.0
54	1	6.1	7.0	7.2
55	0	7.3	8.1	8.1
56	0	7.7	7.6	8.9
57	1	9.0	7.9	8.8
58	0	8.2	7.5	7.5
59	0	7.1	6.5	7.0
60	0	7.9	8.5	8.5
61	0	6.6	6.9	7.2
62	1	8.0	7.6	8.8
63	1	6.3	5.5	8.0
64	0	6.0	6.0	8.1
65	0	5.4	6.9	7.1
66	0	7.6	6.9	9.0
67	0	6.4	5.6	6.2
68	1	6.1	6.3	8.2
69	0	5.2	5.8	5.8
70	0	6.6	6.6	8.0
71	0	7.6	7.5	7.7
72	1	5.8	6.0	7.0
73	0	7.9	6.6	7.9
74	1	8.6	8.8	9.8
75	1	8.2	7.0	8.4
76	0	7.1	6.6	8.9
77	1	6.4	6.9	7.5
78	1	7.6	7.3	8.0
79	1	8.9	7.3	8.1
80	0	5.7	5.8	7.6
81	0	7.1	7.9	8.8
82	0	7.4	7.3	8.0
83	1	6.6	6.1	8.5
84	0	5.0	5.1	6.5
85	1	8.2	7.5	7.7

86	0	5.2	6.0	7.2
87	0	5.2	5.5	6.0
88	1	8.2	7.6	8.2
89	1	7.3	6.5	7.4
90	1	8.2	7.6	9.3
91	0	7.4	7.9	7.9
92	0	4.8	5.0	6.5
93	1	7.6	7.5	8.6
94	1	8.9	7.6	8.9
95	0	7.7	7.3	8.4
96	1	7.3	8.1	8.1
97	1	6.3	5.5	7.2
98	1	5.4	7.0	7.7
99	1	6.4	7.1	7.4
100	0	6.4	7.3	7.0
101	0	5.4	5.5	6.1
102	1	8.7	9.1	7.1
103	1	6.1	7.0	7.6
104	1	8.4	9.4	9.0
105	0	7.9	8.4	8.9
106	0	7.0	7.0	7.5
107	1	8.7	7.6	9.3
108	0	7.9	7.9	8.0
109	1	7.1	7.3	7.6
110	0	5.8	5.3	7.1
111	1	8.4	7.1	8.1
112	1	7.1	6.3	7.9
113	0	7.6	8.3	7.2
114	1	7.3	7.0	7.7
115	1	8.0	8.8	7.9
116	1	6.1	6.9	6.9
117	1	8.7	8.0	9.5
118	0	5.8	6.4	7.5
119	1	6.4	8.5	8.0
120	0	6.4	5.9	7.1
121	1	9.0	7.5	8.8
122	0	6.4	6.5	8.0
123	0	6.0	6.4	7.7
124	1	8.7	7.9	8.2
125	0	5.0	6.1	6.5
126	1	7.4	8.0	8.1
127	0	8.6	6.5	8.1
128	0	5.8	6.0	6.9
129	1	9.8	8.1	9.3

130	0	4.8	5.0	6.2
131	1	7.0	6.9	8.0
132	0	5.5	5.6	7.1
133	0	5.0	5.1	6.5
134	0	6.0	6.9	7.1
135	1	8.0	7.5	8.2
136	1	7.9	7.1	7.0
137	0	4.8	5.8	6.7
138	1	6.4	6.6	7.5
139	0	4.8	6.1	7.4
140	1	6.4	6.8	7.4
141	0	6.8	6.5	7.9
142	0	7.9	8.3	8.0
143	1	8.9	9.4	8.0
144	0	7.4	6.6	8.4
145	0	7.0	7.6	8.8
146	1	7.0	7.8	7.9
147	0	6.0	6.0	6.0
148	0	7.4	6.0	8.2
149	1	7.6	9.1	8.4
150	0	4.8	5.0	7.4
151	0	7.3	5.8	8.0
152	0	6.3	5.9	6.6
153	0	5.0	5.3	7.6
154	1	7.1	6.8	7.5
155	0	6.3	6.1	7.1
156	0	6.8	5.9	7.9
157	0	5.2	5.3	7.6
158	1	6.3	5.6	7.1
159	1	6.1	6.1	7.6
160	1	7.3	7.4	8.2
161	0	5.4	5.3	6.9
162	1	8.0	7.0	8.1
163	1	7.4	7.0	7.6
164	1	7.3	7.1	8.4
165	1	7.3	6.8	7.4
166	1	6.4	5.9	7.9
167	0	5.7	6.1	7.2
168	0	5.7	6.6	7.6
169	1	6.6	6.5	6.7
170	0	6.3	7.1	7.4
171	0	5.4	7.0	6.2
172	0	7.4	7.0	7.5
173	1	8.6	7.3	7.4

174	1	7.3	6.4	7.9
175	0	6.3	5.8	6.5
176	1	8.7	8.5	8.6
177	1	8.6	8.0	8.6
178	1	8.4	7.8	8.0
179	0	7.4	6.0	8.1
180	1	9.9	8.1	8.2
181	1	8.0	7.1	7.2
182	0	7.9	8.1	8.4
183	1	9.8	9.0	9.4
184	1	8.9	8.0	9.4
185	0	6.8	6.3	7.5
186	1	7.4	6.9	6.6
187	0	4.7	4.0	4.3
188	0	5.4	7.4	6.6
189	0	7.0	6.6	7.4
190	1	7.1	6.5	7.1
191	1	6.3	7.9	6.7
192	0	5.5	5.6	6.7
193	0	5.4	4.5	7.2
194	0	5.4	6.5	7.1
195	0	4.8	5.5	6.0
196	0	8.2	6.9	8.4
197	0	7.9	7.8	8.6
198	1	8.6	8.8	7.9
199	1	8.2	7.1	7.6
200	1	8.6	8.1	8.5

The SAS System

The MEANS Procedure

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
X19	X19 - Satisfaction	200	6.9520000	1.2411277	4.7000000	9.9000000
X20	X20 - Likely to Recommend	200	6.9525000	1.0828929	4.0000000	9.9000000
X21	X21 - Likely to Purchase	200	7.6650000	0.8932325	4.3000000	9.9000000

The SAS System

The MEANS Procedure

X5 - Distribution System=0

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
X19	X19 - Satisfaction	108	6.3250000	1.0328370	4.7000000	8.6000000
X20	X20 - Likely to Recommend	108	6.4879630	0.9858549	4.0000000	8.6000000
X21	X21 - Likely to Purchase	108	7.3361111	0.8801506	4.3000000	9.0000000

X5 - Distribution System=1

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
X19	X19 - Satisfaction	92	7.6880435	1.0487923	5.4000000	9.9000000
X20	X20 - Likely to Recommend	92	7.4978261	0.9299626	5.5000000	9.9000000
X21	X21 - Likely to Purchase	92	8.0510870	0.7448718	6.6000000	9.9000000

The SAS System

The UNIVARIATE Procedure
Variable: X19 (X19 - Satisfaction)

Moments			
N	200	Sum Weights	200
Mean	6.952	Sum Observations	1390.4
Std Deviation	1.24112771	Variance	1.54039799
Skewness	0.08959986	Kurtosis	-0.7692524
Uncorrected SS	9972.6	Corrected SS	306.5392
Coeff Variation	17.8528151	Std Error Mean	0.08776098

Basic Statistical Measures			
Location		Variability	
Mean	6.952000	Std Deviation	1.24113
Median	7.050000	Variance	1.54040
Mode	5.400000	Range	5.20000
		Interquartile Range	1.90000

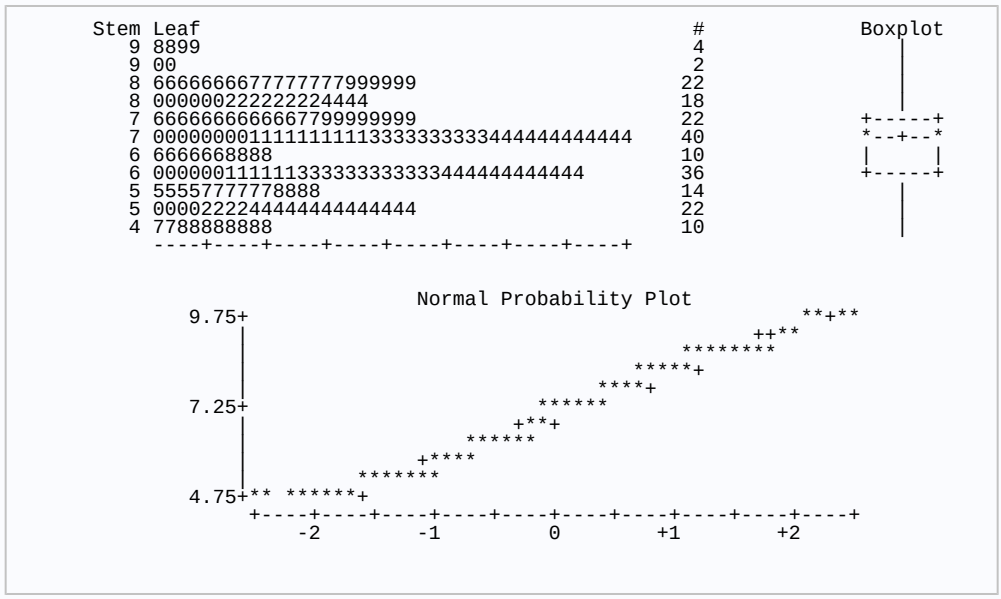
Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	79.21516	Pr > |t|	<.0001
Sign	M	100	Pr >= |M|	<.0001
Signed Rank	S	10050	Pr >= |S|	<.0001

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.975647	Pr < W	0.0015
Kolmogorov-Smirnov	D	0.081752	Pr > D	<0.0100
Cramer-von Mises	W-Sq	0.175319	Pr > W-Sq	0.0111
Anderson-Darling	A-Sq	1.208312	Pr > A-Sq	<0.0050

Quantiles (Definition 5)	
Quantile	Estimate
100% Max	9.90
99%	9.85
95%	8.90
90%	8.65
75% Q3	7.90
50% Median	7.05

25% Q1	6.00
10%	5.40
5%	4.90
1%	4.75
0% Min	4.70

Extreme Observations			
Lowest		**Highest**	
Value	**Obs**	**Value**	**Obs**
4.7	100	9.0	164
4.7	3	9.8	167
4.8	106	9.8	193
4.8	83	9.9	117
4.8	76	9.9	191



The SAS System

The UNIVARIATE Procedure
Variable: X20 (X20 - Likely to Recommend)

Moments			
N	200	**Sum Weights**	200
Mean	6.9525	**Sum Observations**	1390.5
Std Deviation	1.0828929	**Variance**	1.17265704
Skewness	0.07027089	**Kurtosis**	-0.2255278
Uncorrected SS	9900.81	**Corrected SS**	233.35875
Coeff Variation	15.5755901	**Std Error Mean**	0.07657209

Basic Statistical Measures			
Location		**Variability**	
Mean	6.952500	**Std Deviation**	1.08289
Median	7.000000	**Variance**	1.17266

Mode	6.900000	**Range**	5.90000
		Interquartile Range	1.60000

Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	90.79679	**Pr > |t|**	<.0001
Sign	**M**	100	**Pr >= |M|**	<.0001
Signed Rank	**S**	10050	**Pr >= |S|**	<.0001

Tests for Normality				
Test	**Statistic**		**p Value**	
Shapiro-Wilk	**W**	0.99473	**Pr < W**	0.7100
Kolmogorov-Smirnov	**D**	0.050828	**Pr > D**	>0.1500
Cramer-von Mises	**W-Sq**	0.068293	**Pr > W-Sq**	>0.2500
Anderson-Darling	**A-Sq**	0.402035	**Pr > A-Sq**	>0.2500

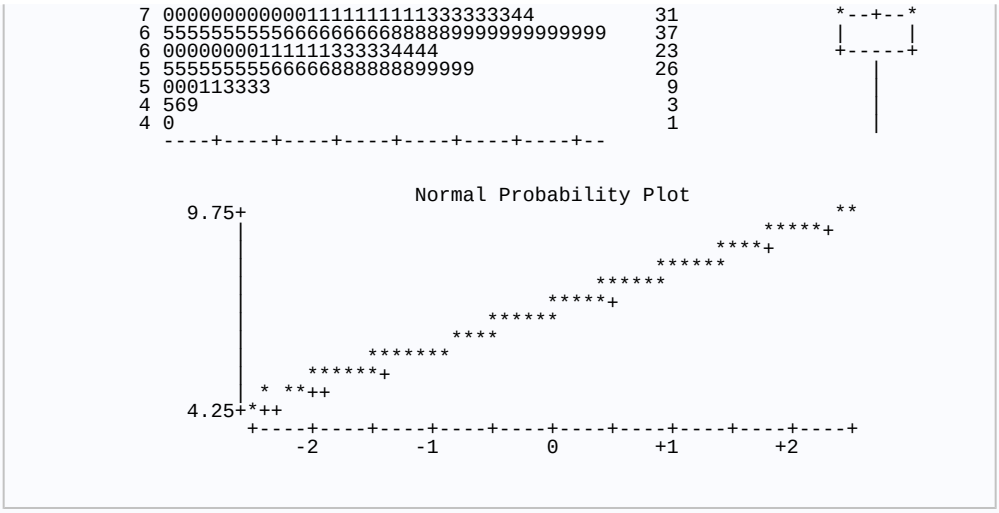
Quantiles (Definition 5)	
Quantile	**Estimate**
100% Max	9.90
99%	9.50
95%	8.80
90%	8.35
75% Q3	7.70
50% Median	7.00
25% Q1	6.10
10%	5.50
5%	5.30
1%	4.55
0% Min	4.00

Extreme Observations			
Lowest		**Highest**	
Value	**Obs**	**Value**	**Obs**
4.0	100	9.1	175
4.5	104	9.4	154
4.6	24	9.4	173
4.9	14	9.6	117
5.0	83	9.9	122

The SAS System

The UNIVARIATE Procedure
Variable: X20 (X20 - Likely to Recommend)

```
      Stem Leaf                                    #          Boxplot
         9 69                                      2             |
         9 001144                                  6             |
         8 555568888                               9             |
         8 00000001111111133444                   20             |
         7 55555555555566666666888888999999       33          +-----+
```



The SAS System

The UNIVARIATE Procedure
Variable: X21 (X21 - Likely to Purchase)

Moments			
N	200	Sum Weights	200
Mean	7.665	Sum Observations	1533
Std Deviation	0.89323251	Variance	0.79786432
Skewness	-0.2063466	Kurtosis	0.58403771
Uncorrected SS	11909.22	Corrected SS	158.775
Coeff Variation	11.6533922	Std Error Mean	0.06316108

Basic Statistical Measures			
Location		Variability	
Mean	7.665000	Std Deviation	0.89323
Median	7.600000	Variance	0.79786
Mode	7.100000	Range	5.60000
		Interquartile Range	1.10000

Note: The mode displayed is the smallest of 4 modes with a count of 14.

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	121.3564	Pr > |t|	<.0001
Sign	M	100	Pr >= |M|	<.0001
Signed Rank	S	10050	Pr >= |S|	<.0001

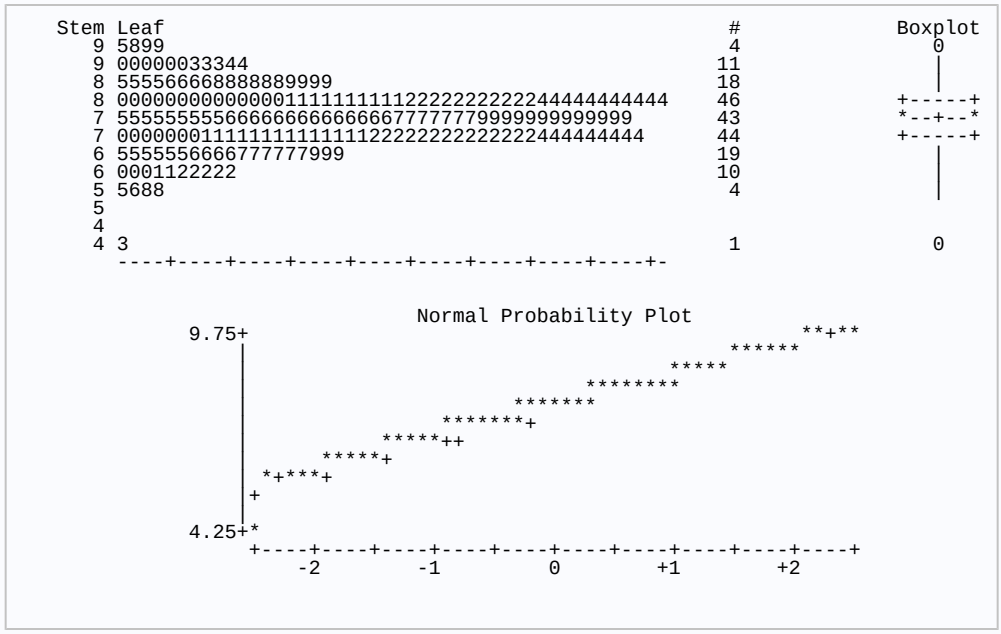
Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.989873	Pr < W	0.1712
Kolmogorov-Smirnov	D	0.063759	Pr > D	0.0459
Cramer-von Mises	W-Sq	0.099504	Pr > W-Sq	0.1163
Anderson-Darling	A-Sq	0.563396	Pr > A-Sq	0.1468

Quantiles (Definition 5)	
Quantile	**Estimate**
100% Max	9.90
99%	9.85
95%	9.00
90%	8.80
75% Q3	8.20
50% Median	7.60
25% Q1	7.10
10%	6.50
5%	6.15
1%	5.55
0% Min	4.30

Extreme Observations			
Lowest		**Highest**	
Value	**Obs**	**Value**	**Obs**
4.3	100	9.4	194
5.5	14	9.5	162
5.6	17	9.8	136
5.8	43	9.9	117
5.8	26	9.9	122

The SAS System

The UNIVARIATE Procedure
Variable: X21 (X21 - Likely to Purchase)



The SAS System

The UNIVARIATE Procedure
Variable: X19 (X19 - Satisfaction)

X5 - Distribution System=0

Moments			
N	108	Sum Weights	108
Mean	6.325	Sum Observations	683.1
Std Deviation	1.03283703	Variance	1.06675234
Skewness	0.16865488	Kurtosis	-1.1588161
Uncorrected SS	4434.75	Corrected SS	114.1425
Coeff Variation	16.3294393	Std Error Mean	0.09938479

Basic Statistical Measures			
Location		Variability	
Mean	6.325000	Std Deviation	1.03284
Median	6.300000	Variance	1.06675
Mode	5.400000	Range	3.90000
		Interquartile Range	1.90000

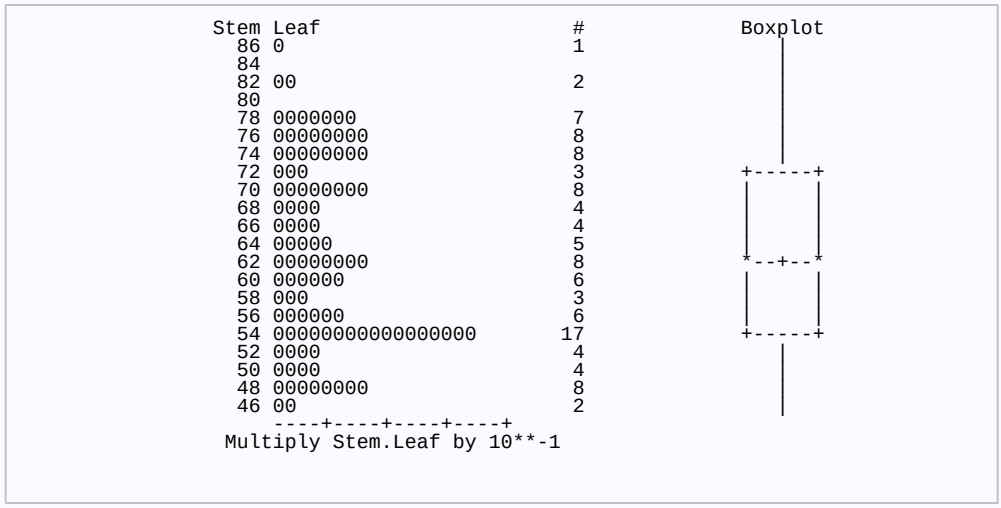
Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	63.64153	Pr > |t|	<.0001
Sign	M	54	Pr >= |M|	<.0001
Signed Rank	S	2943	Pr >= |S|	<.0001

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.948521	Pr < W	0.0004
Kolmogorov-Smirnov	D	0.111862	Pr > D	<0.0100
Cramer-von Mises	W-Sq	0.275993	Pr > W-Sq	<0.0050
Anderson-Darling	A-Sq	1.76176	Pr > A-Sq	<0.0050

Quantiles (Definition 5)	
Quantile	Estimate
100% Max	8.6
99%	8.2
95%	7.9
90%	7.7
75% Q3	7.3
50% Median	6.3
25% Q1	5.4
10%	5.0
5%	4.8
1%	4.7
0% Min	4.7

Extreme Observations	

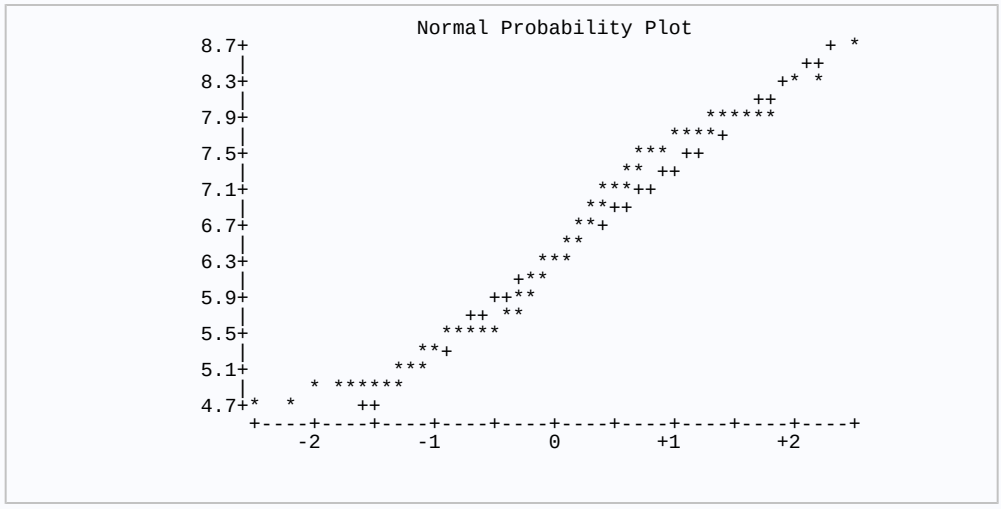
Lowest			Highest		
Value	X5	Obs	Value	X5	Obs
4.7	0	100	7.9	0	98
4.7	0	3	7.9	0	108
4.8	0	106	8.2	0	35
4.8	0	83	8.2	0	107
4.8	0	76	8.6	0	69



The SAS System

The UNIVARIATE Procedure
Variable: X19 (X19 - Satisfaction)

X5 - Distribution System=0



The SAS System

The UNIVARIATE Procedure
Variable: X20 (X20 - Likely to Recommend)

X5 - Distribution System=0

Moments			
N	108	Sum Weights	108

Mean	6.48796296	Sum Observations	700.7
Std Deviation	0.98585487	Variance	0.97190983
Skewness	0.11667645	Kurtosis	-0.4850964
Uncorrected SS	4650.11	Corrected SS	103.994352
Coeff Variation	15.1951372	Std Error Mean	0.09486393

Basic Statistical Measures			
Location		Variability	
Mean	6.487963	Std Deviation	0.98585
Median	6.500000	Variance	0.97191
Mode	6.900000	Range	4.60000
		Interquartile Range	1.40000

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	68.39231	Pr > |t|	<.0001
Sign	M	54	Pr >= |M|	<.0001
Signed Rank	S	2943	Pr >= |S|	<.0001

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.986268	Pr < W	0.3361
Kolmogorov-Smirnov	D	0.078962	Pr > D	0.0952
Cramer-von Mises	W-Sq	0.081841	Pr > W-Sq	0.2016
Anderson-Darling	A-Sq	0.484793	Pr > A-Sq	0.2299

Quantiles (Definition 5)	
Quantile	Estimate
100% Max	8.6
99%	8.5
95%	8.3
90%	7.9
75% Q3	7.2
50% Median	6.5
25% Q1	5.8
10%	5.3
5%	5.0
1%	4.5
0% Min	4.0

Extreme Observations					
Lowest			Highest		
Value	X5	Obs	Value	X5	Obs
4.0	0	100	8.3	0	78
4.5	0	104	8.4	0	59
4.6	0	24	8.5	0	12
4.9	0	14	8.5	0	37

5.0	0	83	8.6	0	29

The SAS System

The UNIVARIATE Procedure
Variable: X20 (X20 - Likely to Recommend)

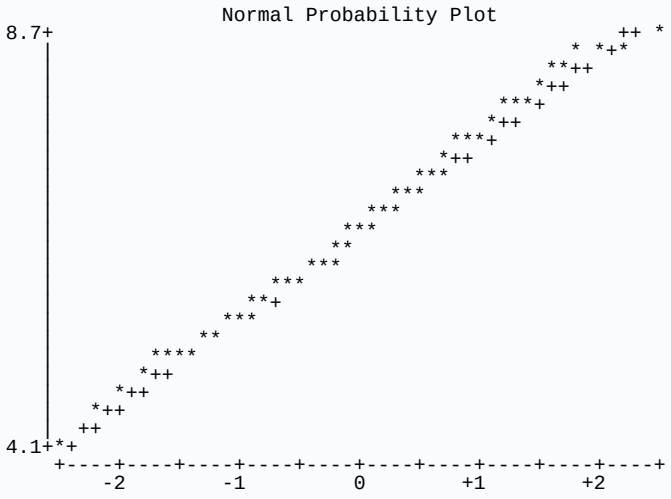
X5 - Distribution System=0

```
Stem Leaf                     #             Boxplot
  86 0                        1                |
  84 000                      3                |
  82 00                       2                |
  80 00                       2                |
  78 00000                    5                |
  76 000                      3                |
  74 00000000                 8                |
  72 000                      3             +-----+
  70 000000                   6             |     |
  68 000000000                9             |     |
  66 0000000                  7             |     |
  64 00000000000             10             *--+--*
  62 000                      3             |     |
  60 000000000000            11             |     |
  58 000000000000            11             +-----+
  56 0000                     4                |
  54 0000000                  7                |
  52 0000                     4                |
  50 00000                    5                |
  48 0                        1                |
  46 0                        1                |
  44 0                        1                |
  42                                           |
  40 0                        1                |
     ----+----+----+----+
Multiply Stem.Leaf by 10**-1
```

The SAS System

The UNIVARIATE Procedure
Variable: X20 (X20 - Likely to Recommend)

X5 - Distribution System=0



The SAS System

The UNIVARIATE Procedure
Variable: X21 (X21 - Likely to Purchase)

X5 - Distribution System=0

Moments			
N	108	Sum Weights	108
Mean	7.33611111	Sum Observations	792.3
Std Deviation	0.88015062	Variance	0.77466511
Skewness	-0.3366819	Kurtosis	0.32310707
Uncorrected SS	5895.29	Corrected SS	82.8891667
Coeff Variation	11.9975094	Std Error Mean	0.08469253

Basic Statistical Measures			
Location		Variability	
Mean	7.336111	Std Deviation	0.88015
Median	7.300000	Variance	0.77467
Mode	7.100000	Range	4.70000
		Interquartile Range	1.30000

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	86.62052	Pr > |t|	<.0001
Sign	M	54	Pr >= |M|	<.0001
Signed Rank	S	2943	Pr >= |S|	<.0001

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.981489	Pr < W	0.1382
Kolmogorov-Smirnov	D	0.073498	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.061649	Pr > W-Sq	>0.2500
Anderson-Darling	A-Sq	0.38917	Pr > A-Sq	>0.2500

Quantiles (Definition 5)	
Quantile	Estimate
100% Max	9.0
99%	9.0
95%	8.8
90%	8.4
75% Q3	8.0
50% Median	7.3
25% Q1	6.7
10%	6.2
5%	6.0
1%	5.5
0% Min	4.3

Extreme Observations					
Lowest			Highest		
Value	X5	Obs	Value	X5	Obs
4.3	0	100	8.9	0	34
5.5	0	14	8.9	0	47

5.6	0	17	8.9	0	59
5.8	0	43	9.0	0	22
5.8	0	26	9.0	0	41

The SAS System

The UNIVARIATE Procedure
Variable: X21 (X21 - Likely to Purchase)

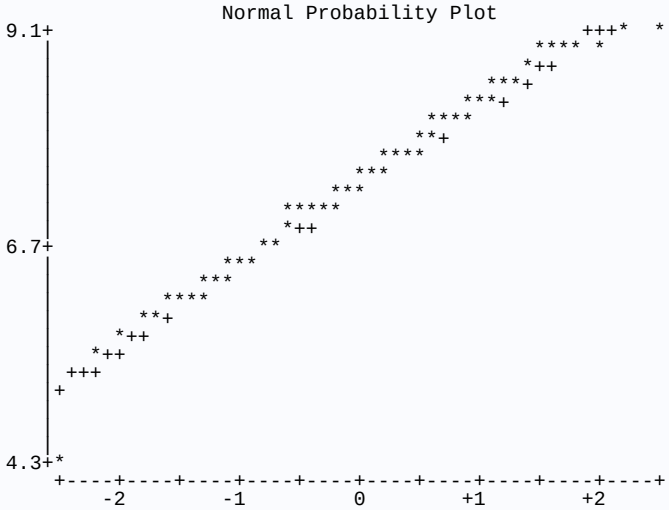
X5 - Distribution System=0

```
Stem Leaf                     #             Boxplot
  90 00                       2                |
  88 000000                   6                |
  86 0                        1                |
  84 000000                   6                |
  82 0000                     4                |
  80 0000000000              10            +-----+
  78 00000                    5            |     |
  76 0000000000              10            |     |
  74 0000000000              10            |     |
  72 000000000                9            *--+--*
  70 000000000000000         15            |     |
  68 00                       2            |     |
  66 0000000                  7            +-----+
  64 000000                   6                |
  62 00000                    5                |
  60 00000                    5                |
  58 00                       2                |
  56 0                        1                |
  54 0                        1                |
  52                                           |
  50
  48
  46
  44
  42 0                        1                0
     ----+----+----+----+
 Multiply Stem.Leaf by 10**-1
```

The SAS System

The UNIVARIATE Procedure
Variable: X21 (X21 - Likely to Purchase)

X5 - Distribution System=0



The SAS System

The UNIVARIATE Procedure
Variable: X19 (X19 - Satisfaction)

X5 - Distribution System=1

Moments			
N	92	Sum Weights	92
Mean	7.68804348	Sum Observations	707.3
Std Deviation	1.04879233	Variance	1.09996536
Skewness	-0.0209975	Kurtosis	-0.7910346
Uncorrected SS	5537.85	Corrected SS	100.096848
Coeff Variation	13.6418627	Std Error Mean	0.10934416

Basic Statistical Measures			
Location		Variability	
Mean	7.688043	Std Deviation	1.04879
Median	7.600000	Variance	1.09997
Mode	8.700000	Range	4.50000
		Interquartile Range	1.60000

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	70.31051	Pr > |t|	<.0001
Sign	M	46	Pr >= |M|	<.0001
Signed Rank	S	2139	Pr >= |S|	<.0001

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.964541	Pr < W	0.0132
Kolmogorov-Smirnov	D	0.1012	Pr > D	0.0206
Cramer-von Mises	W-Sq	0.175393	Pr > W-Sq	0.0108
Anderson-Darling	A-Sq	1.164144	Pr > A-Sq	<0.0050

Quantiles (Definition 5)	
Quantile	Estimate
100% Max	9.9
99%	9.9
95%	9.0
90%	8.9
75% Q3	8.6
50% Median	7.6
25% Q1	7.0
10%	6.3
5%	6.1
1%	5.4
0% Min	5.4

Extreme Observations	
Lowest	Highest

Value	X5	Obs	Value	X5	Obs
5.4	1	150	9.0	1	164
5.8	1	135	9.8	1	167
6.1	1	178	9.8	1	193
6.1	1	161	9.9	1	117
6.1	1	153	9.9	1	191

The SAS System

The UNIVARIATE Procedure
Variable: X19 (X19 - Satisfaction)

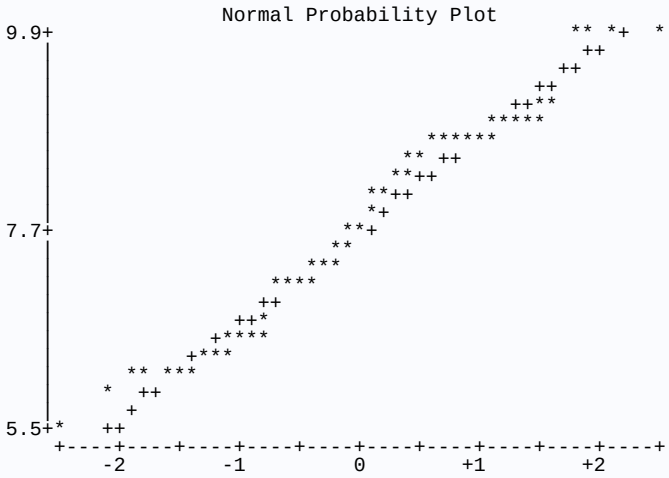
X5 - Distribution System=1

```
Stem Leaf                     #             Boxplot
  98 0000                     4                |
  96                                           |
  94                                           |
  92                                           |
  90 00                       2                |
  88 000000                   6                |
  86 0000000000000000        15             +-----+
  84 0000                     4             |     |
  82 000000                   6             |     |
  80 000000                   6             |     |
  78 0                        1             |     |
  76 000000                   6             *--+--*
  74 0000                     4             |     |
  72 0000000                  7             |     |
  70 0000000000              10             +-----+
  68                                           |
  66 00                       2                |
  64 0000000                  7                |
  62 0000                     4                |
  60 000000                   6                |
  58 0                        1                |
  56                                           |
  54 0                        1                |
     ----+----+----+----+
 Multiply Stem.Leaf by 10**-1
```

The SAS System

The UNIVARIATE Procedure
Variable: X19 (X19 - Satisfaction)

X5 - Distribution System=1



The SAS System

The UNIVARIATE Procedure
Variable: X20 (X20 - Likely to Recommend)

X5 - Distribution System=1

Moments			
N	92	Sum Weights	92
Mean	7.49782609	Sum Observations	689.8
Std Deviation	0.92996257	Variance	0.86483039
Skewness	0.25033668	Kurtosis	-0.0447021
Uncorrected SS	5250.7	Corrected SS	78.6995652
Coeff Variation	12.4030961	Std Error Mean	0.0969553

Basic Statistical Measures			
Location		Variability	
Mean	7.497826	Std Deviation	0.92996
Median	7.500000	Variance	0.86483
Mode	7.000000	Range	4.40000
		Interquartile Range	1.10000

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	77.33281	Pr > |t|	<.0001
Sign	M	46	Pr >= |M|	<.0001
Signed Rank	S	2139	Pr >= |S|	<.0001

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.983402	Pr < W	0.2937
Kolmogorov-Smirnov	D	0.10038	Pr > D	0.0221
Cramer-von Mises	W-Sq	0.100866	Pr > W-Sq	0.1099
Anderson-Darling	A-Sq	0.57477	Pr > A-Sq	0.1367

Quantiles (Definition 5)	
Quantile	Estimate
100% Max	9.9
99%	9.9
95%	9.1
90%	8.8
75% Q3	8.0
50% Median	7.5
25% Q1	6.9
10%	6.4
5%	6.0
1%	5.5
0% Min	5.5

Extreme Observations

Lowest			Highest		
Value	X5	Obs	Value	X5	Obs
5.5	1	149	9.1	1	175
5.5	1	133	9.4	1	154
5.6	1	177	9.4	1	173
5.9	1	184	9.6	1	117
6.0	1	135	9.9	1	122

The SAS System

The UNIVARIATE Procedure
Variable: X20 (X20 - Likely to Recommend)

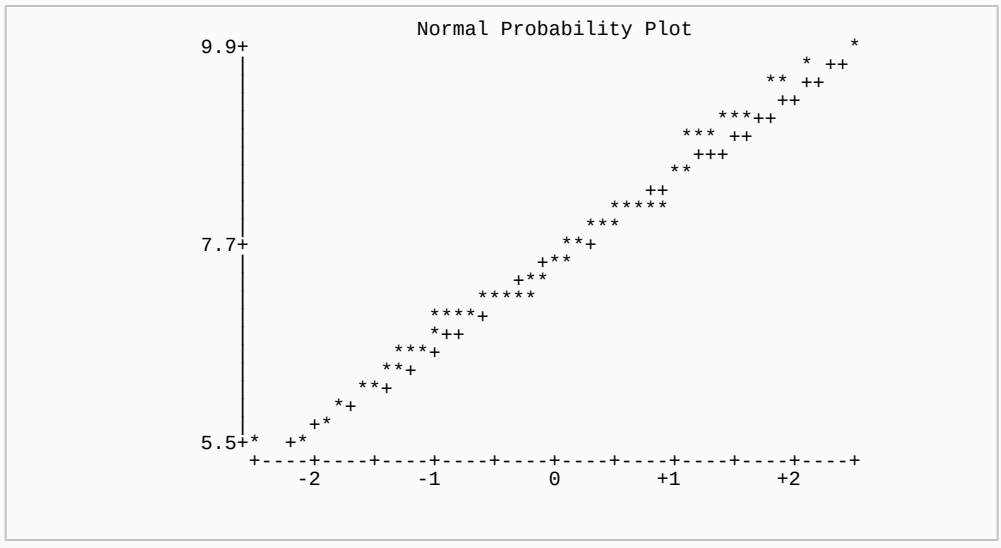
X5 - Distribution System=1

```
Stem Leaf                     #             Boxplot
  98 0                        1                0
  96 0                        1                |
  94 00                       2                |
  92                                           |
  90 0000                     4                |
  88 0000                     4                |
  86                                           |
  84 0000                     4                |
  82                                           |
  80 00000000000000          13             +-----+
  78 00000000                 8             |     |
  76 00000                    5             |     |
  74 000000                   6             *--+--*
  72 0000                     4             |     |
  70 0000000000000000        16             |     |
  68 000000000                9             +-----+
  66 00                       2                |
  64 0000                     4                |
  62 00                       2                |
  60 000                      3                |
  58 0                        1                |
  56 0                        1                |
  54 00                       2                |
     ----+----+----+----+
 Multiply Stem.Leaf by 10**-1
```

The SAS System

The UNIVARIATE Procedure
Variable: X20 (X20 - Likely to Recommend)

X5 - Distribution System=1



The SAS System

The UNIVARIATE Procedure
Variable: X21 (X21 - Likely to Purchase)

X5 - Distribution System=1

Moments			
N	92	Sum Weights	92
Mean	8.05108696	Sum Observations	740.7
Std Deviation	0.74487178	Variance	0.55483397
Skewness	0.46170656	Kurtosis	-0.089366
Uncorrected SS	6013.93	Corrected SS	50.4898913
Coeff Variation	9.25181637	Std Error Mean	0.07765825

Basic Statistical Measures			
Location		Variability	
Mean	8.051087	Std Deviation	0.74487
Median	8.000000	Variance	0.55483
Mode	7.600000	Range	3.30000
		Interquartile Range	0.90000

Note: The mode displayed is the smallest of 3 modes with a count of 8.

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	103.6733	Pr > |t|	<.0001
Sign	M	46	Pr >= |M|	<.0001
Signed Rank	S	2139	Pr >= |S|	<.0001

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.973551	Pr < W	0.0580
Kolmogorov-Smirnov	D	0.105555	Pr > D	0.0127
Cramer-von Mises	W-Sq	0.11506	Pr > W-Sq	0.0734
Anderson-Darling	A-Sq	0.709246	Pr > A-Sq	0.0652

Quantiles (Definition 5)	
Quantile	Estimate
100% Max	9.90
99%	9.90
95%	9.40
90%	9.00
75% Q3	8.45
50% Median	8.00
25% Q1	7.55
10%	7.10
5%	7.00

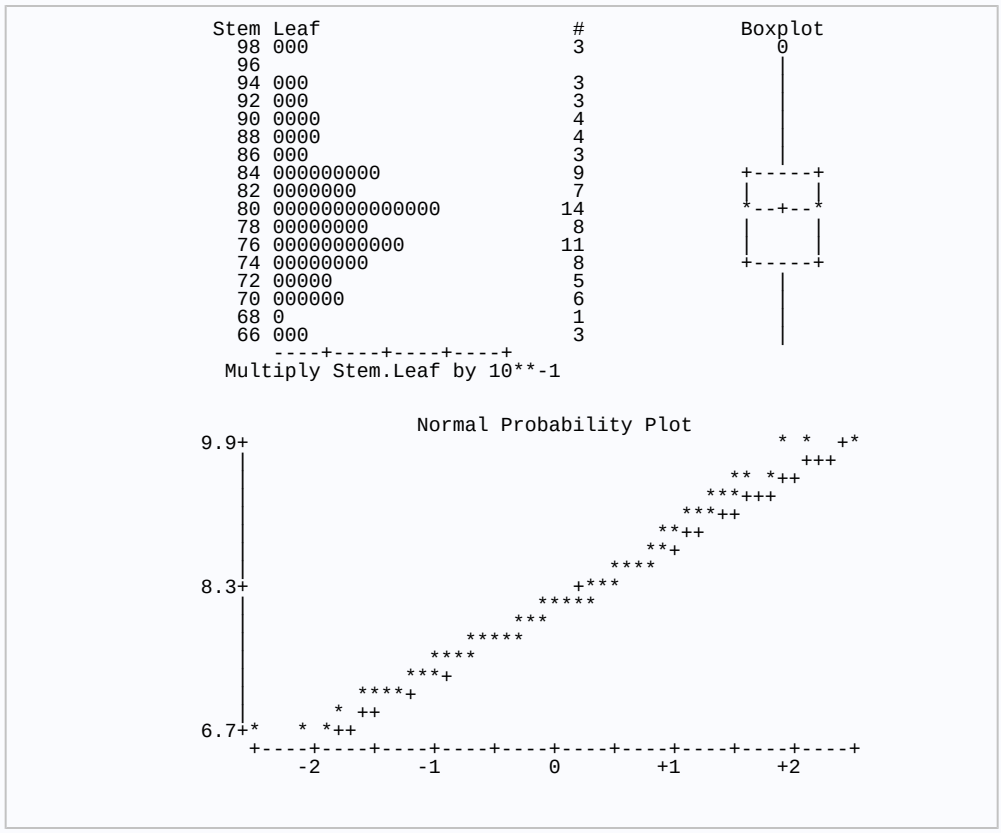
1%	6.60
0% Min	6.60

Extreme Observations					
Lowest			**Highest**		
Value	**X5**	**Obs**	**Value**	**X5**	**Obs**
6.6	1	195	9.4	1	194
6.7	1	197	9.5	1	162
6.7	1	185	9.8	1	136
6.9	1	161	9.9	1	117
7.0	1	170	9.9	1	122

The SAS System

The UNIVARIATE Procedure
Variable: X21 (X21 - Likely to Purchase)

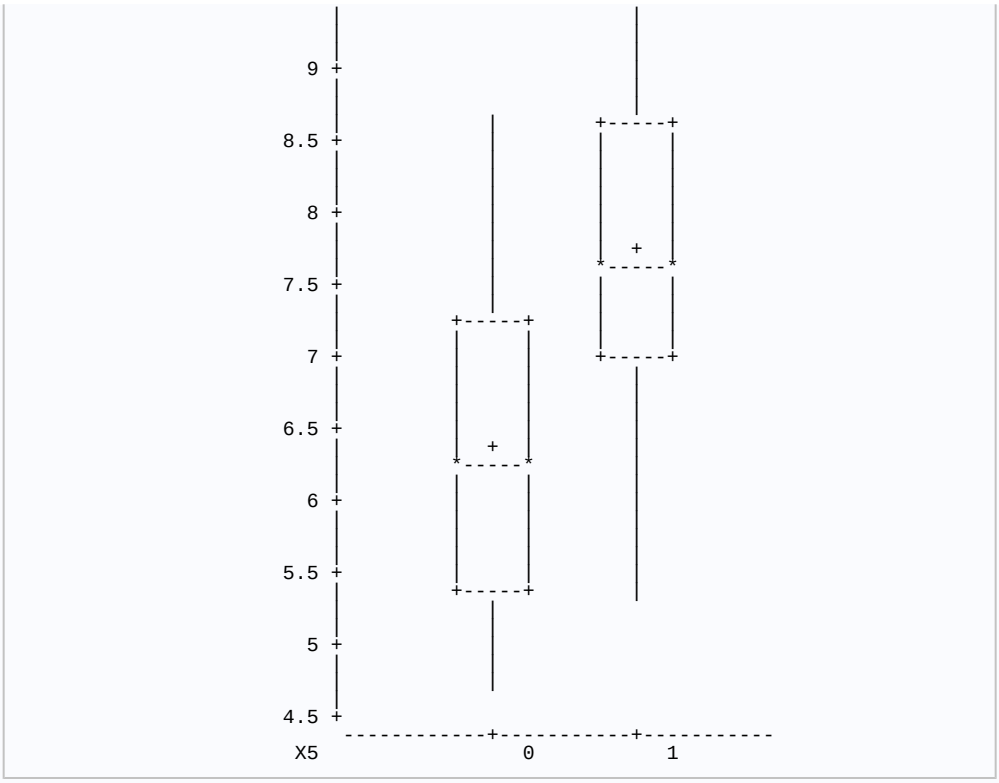
X5 - Distribution System=1



The SAS System

The UNIVARIATE Procedure
Variable: X19 (X19 - Satisfaction)

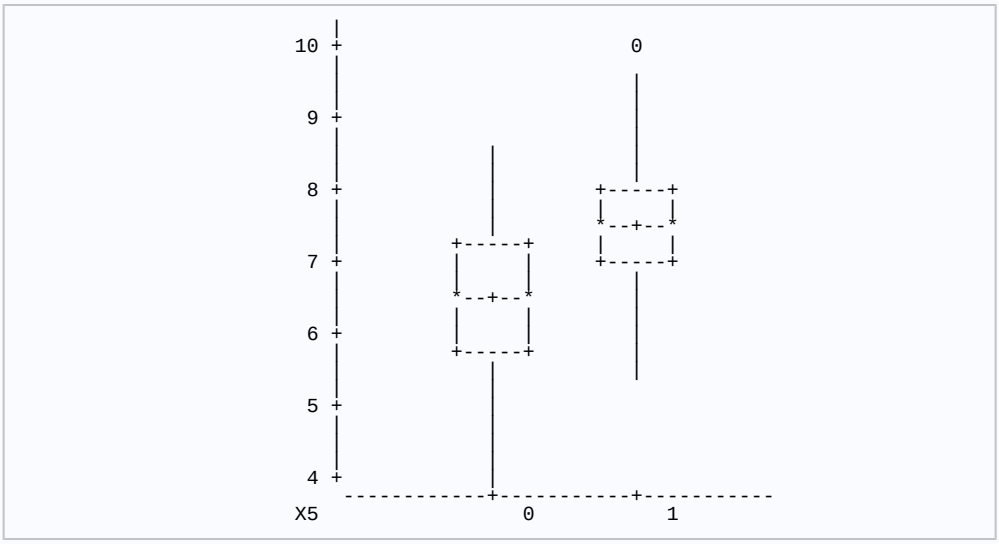
Schematic Plots



The SAS System

The UNIVARIATE Procedure
Variable: X20 (X20 - Likely to Recommend)

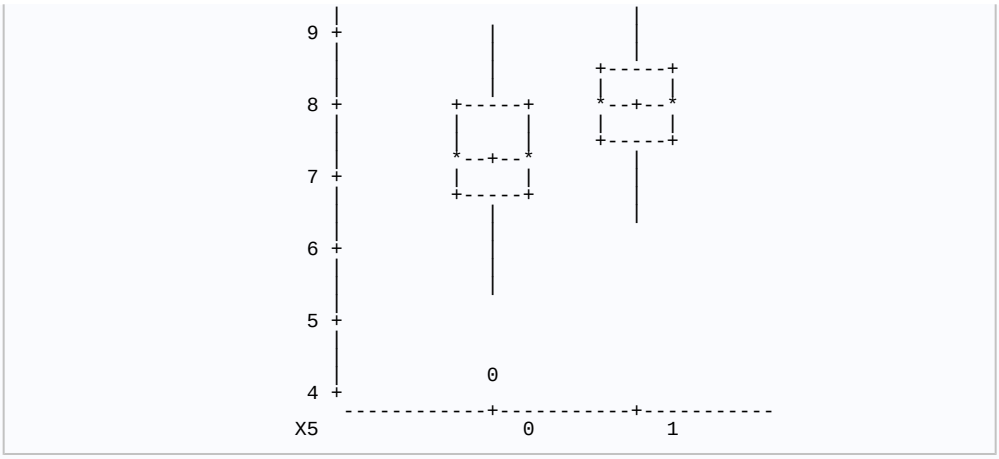
Schematic Plots



The SAS System

The UNIVARIATE Procedure
Variable: X21 (X21 - Likely to Purchase)

Schematic Plots



The SAS System

The GLM Procedure

Class Level Information		
Class	Levels	Values
X5	2	0 1

Number of Observations Read	200
Number of Observations Used	200

The SAS System

The GLM Procedure

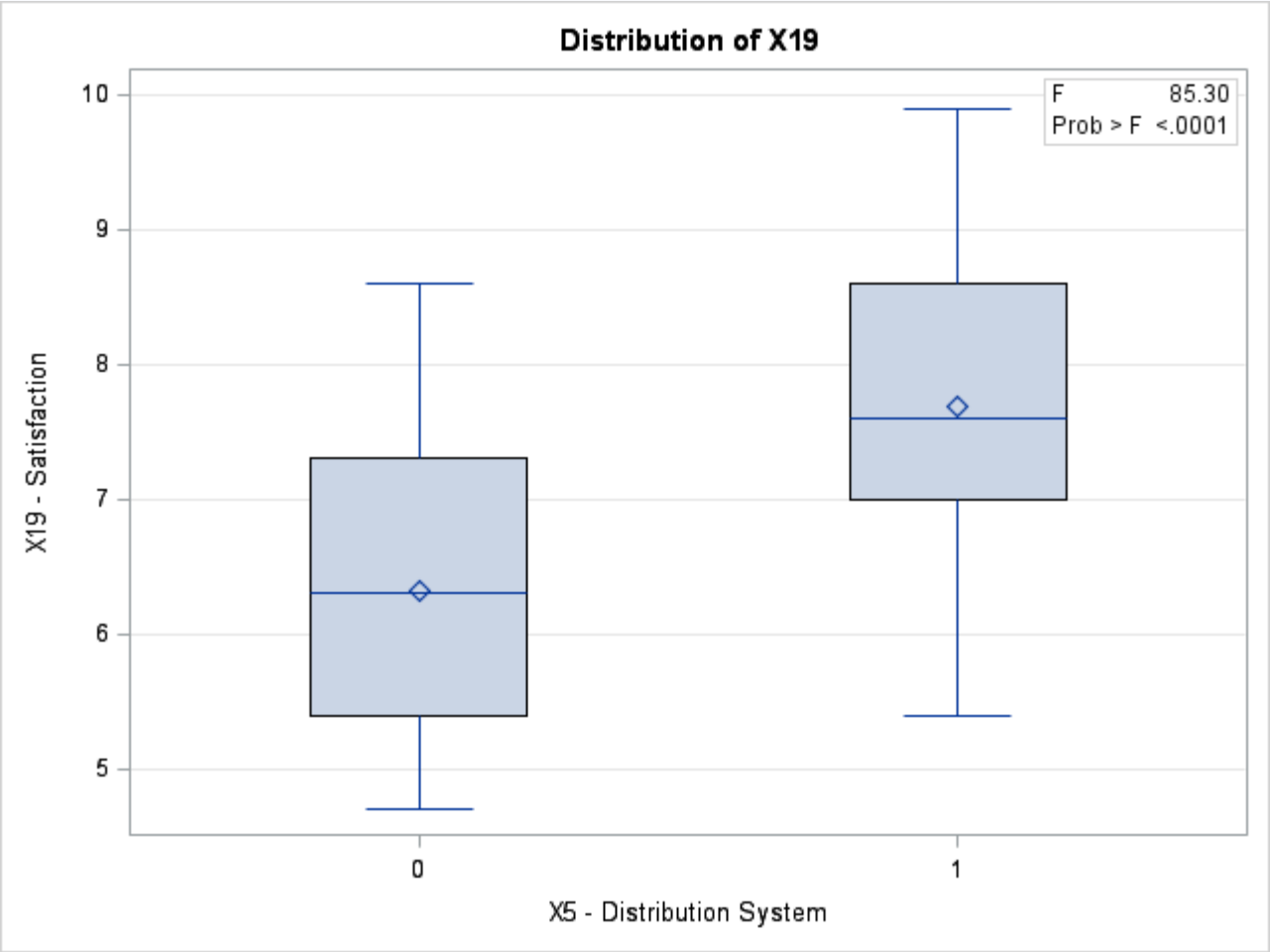
Dependent Variable: X19 X19 - Satisfaction

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	92.2998522	92.2998522	85.30	<.0001
Error	198	214.2393478	1.0820169		
Corrected Total	199	306.5392000			

R-Square	Coeff Var	Root MSE	X19 Mean
0.301103	14.96261	1.040200	6.952000

Source	DF	Type I SS	Mean Square	F Value	Pr > F
X5	1	92.29985217	92.29985217	85.30	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
X5	1	92.29985217	92.29985217	85.30	<.0001



The SAS System

The GLM Procedure

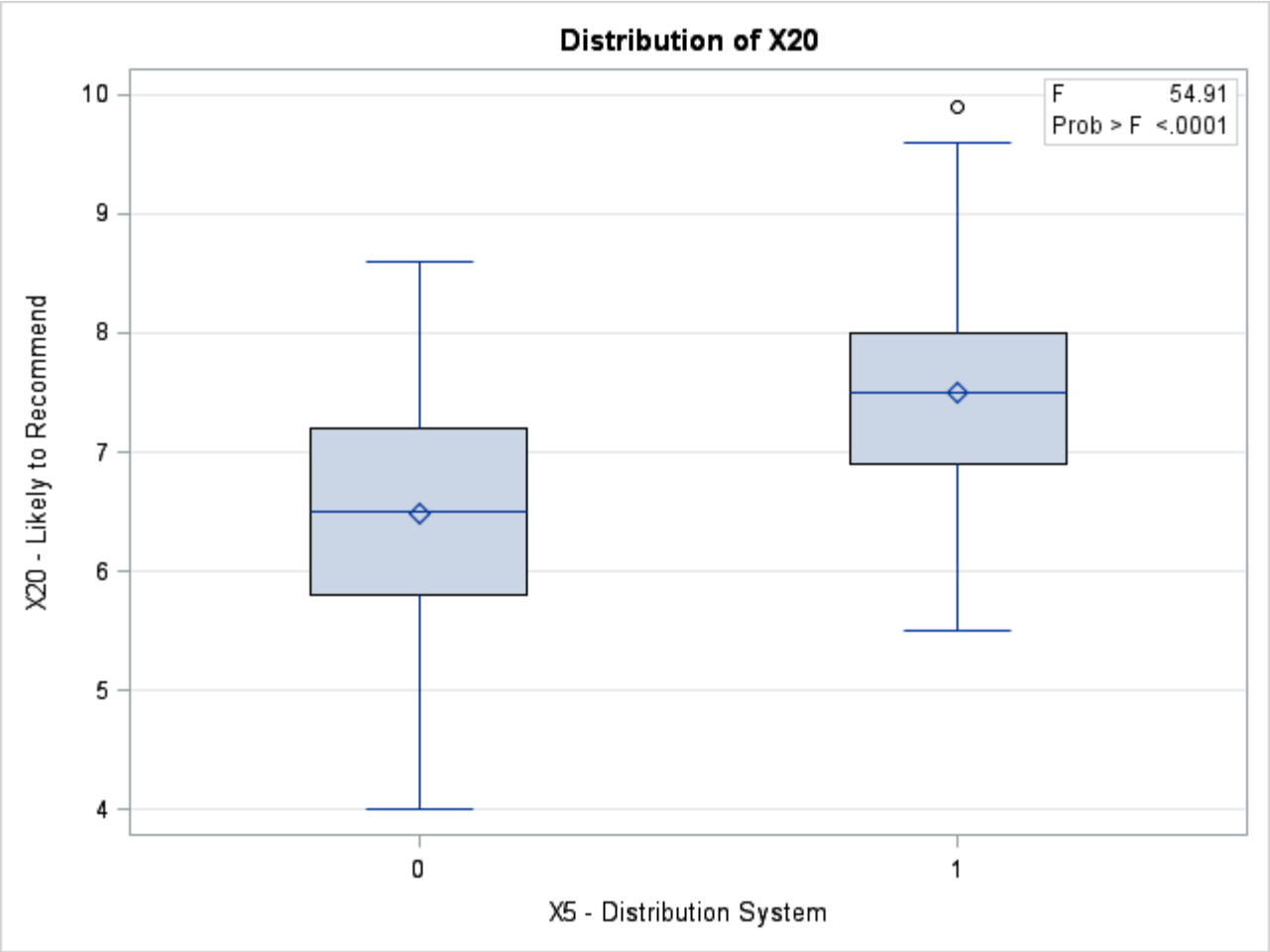
Dependent Variable: X20 X20 - Likely to Recommend

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	50.6648329	50.6648329	54.91	<.0001
Error	198	182.6939171	0.9226966		
Corrected Total	199	233.3587500			

R-Square	Coeff Var	Root MSE	X20 Mean
0.217111	13.81619	0.960571	6.952500

Source	DF	Type I SS	Mean Square	F Value	Pr > F
X5	1	50.66483293	50.66483293	54.91	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
X5	1	50.66483293	50.66483293	54.91	<.0001



The SAS System

The GLM Procedure

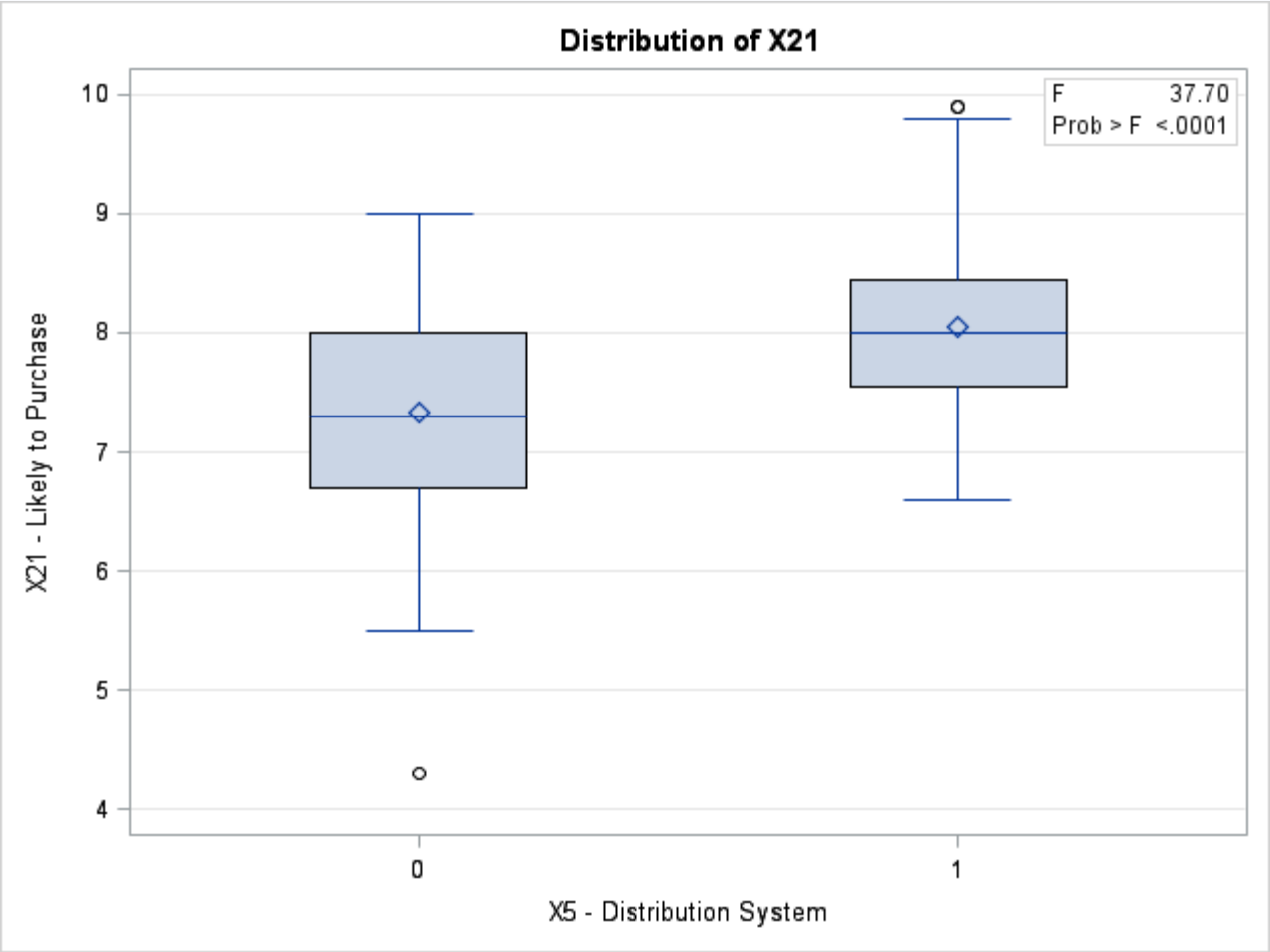
Dependent Variable: X21 X21 - Likely to Purchase

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	25.3959420	25.3959420	37.70	<.0001
Error	198	133.3790580	0.6736316		
Corrected Total	199	158.7750000			

R-Square	Coeff Var	Root MSE	X21 Mean
0.159949	10.70777	0.820751	7.665000

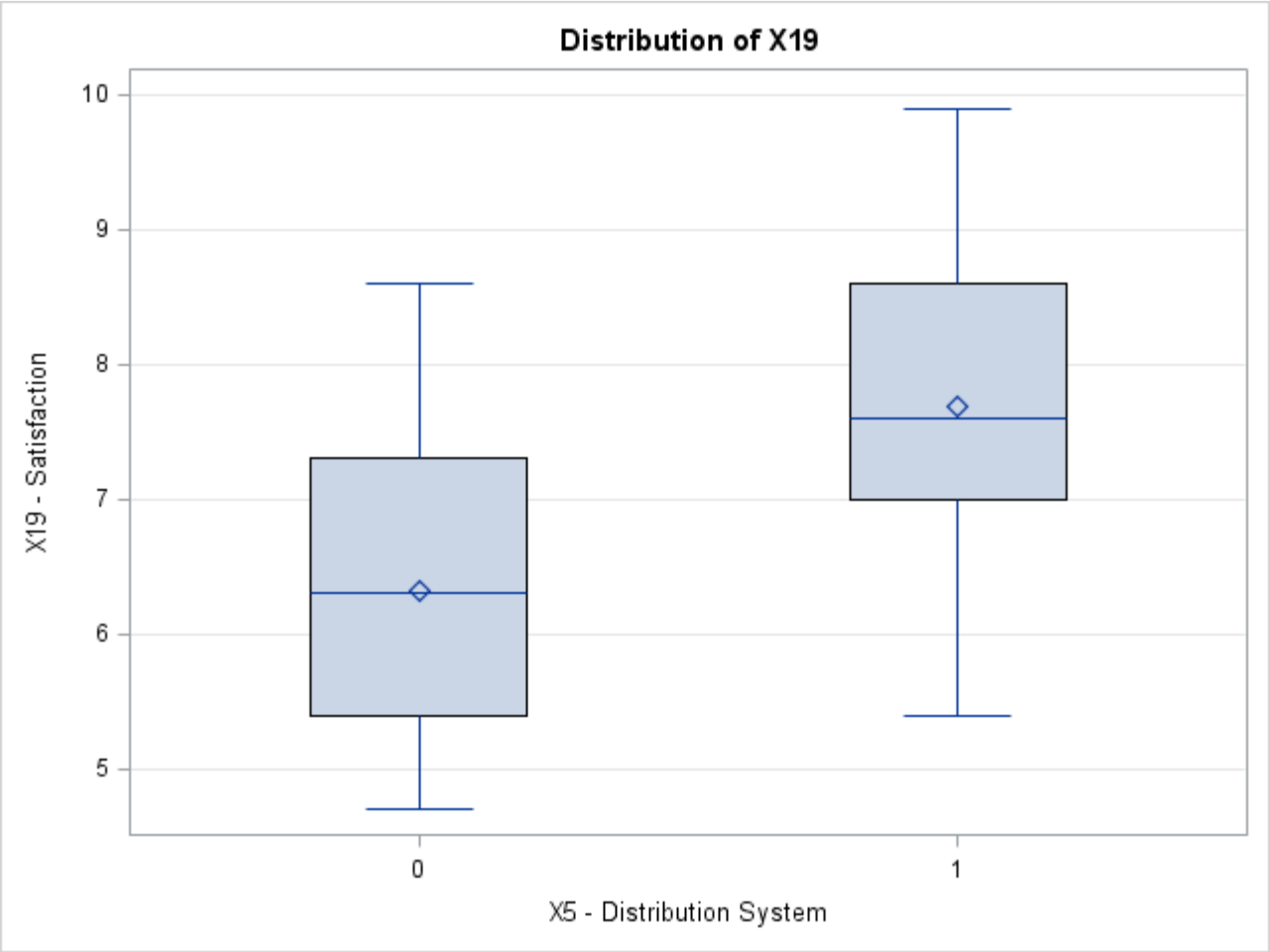
Source	DF	Type I SS	Mean Square	F Value	Pr > F
X5	1	25.39594203	25.39594203	37.70	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
X5	1	25.39594203	25.39594203	37.70	<.0001



The SAS System

The GLM Procedure



The SAS System

The GLM Procedure

t Tests (LSD) for X19

Note: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	1.082017
Critical Value of t	1.97202
Least Significant Difference	0.291
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Means with the same letter are not significantly different.			
t Grouping	**Mean**	**N**	**X5**
A	7.6880	92	1
B	6.3250	108	0

The SAS System

The GLM Procedure

Duncan's Multiple Range Test for X19

Note: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	1.082017
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Number of Means	**2**
Critical Range	.2910

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	X5
A	7.6880	92	1
B	6.3250	108	0

The SAS System

The GLM Procedure

Student-Newman-Keuls Test for X19

Note: This test controls the Type I experimentwise error rate under the complete null hypothesis but not under partial null hypotheses.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	1.082017
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Number of Means	**2**
Critical Range	0.2910295

Means with the same letter are not significantly different.

SNK Grouping	Mean	N	X5
A	7.6880	92	1

B	6.3250	108	0

The SAS System

The GLM Procedure

Tukey's Studentized Range (HSD) Test for X19

Note: This test controls the Type I experimentwise error rate, but it generally has a higher Type II error rate than REGWQ.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	1.082017
Critical Value of Studentized Range	2.78885
Minimum Significant Difference	0.291
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Means with the same letter are not significantly different.			
Tukey Grouping	**Mean**	**N**	**X5**
A	7.6880	92	1
B	6.3250	108	0

The SAS System

The GLM Procedure

Scheffe's Test for X19

Note: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	1.082017
Critical Value of F	3.88885
Minimum Significant Difference	0.291
Harmonic Mean of Cell Sizes	99.36

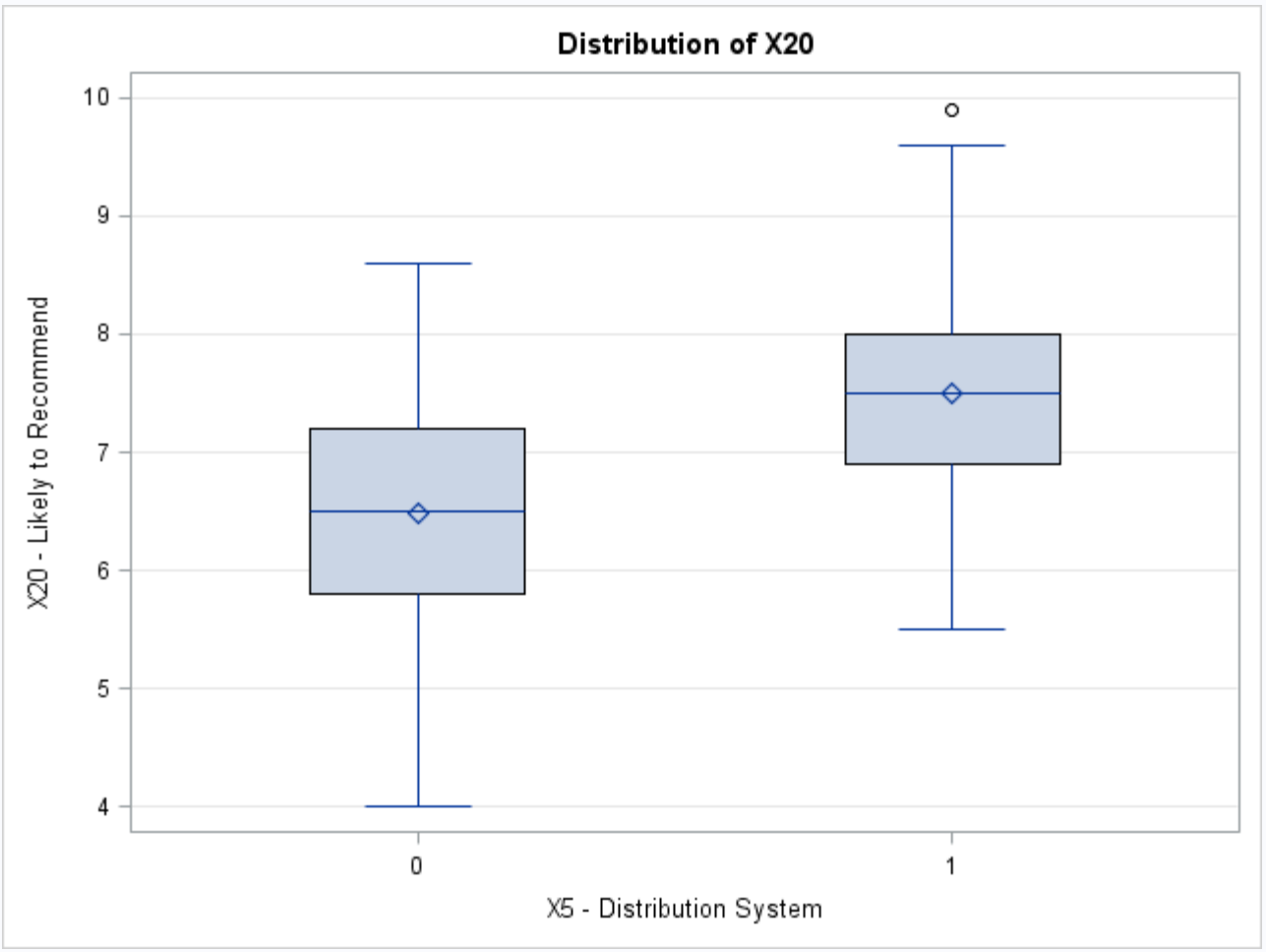
Note: Cell sizes are not equal.

Means with the same letter are not significantly different.			
Scheffe Grouping	**Mean**	**N**	**X5**

A	7.6880	92	1
B	6.3250	108	0

The SAS System

The GLM Procedure



The SAS System

The GLM Procedure

t Tests (LSD) for X20

Note: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	0.922697
Critical Value of t	1.97202
Least Significant Difference	0.2688
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Means with the same letter are not significantly different.			
t Grouping	Mean	N	X5
A	7.4978	92	1
B	6.4880	108	0

The SAS System

The GLM Procedure

Duncan's Multiple Range Test for X20

Note: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	0.922697
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Number of Means	**2**
Critical Range	.2688

Means with the same letter are not significantly different.			
Duncan Grouping	Mean	N	X5
A	7.4978	92	1
B	6.4880	108	0

The SAS System

The GLM Procedure

Student-Newman-Keuls Test for X20

Note: This test controls the Type I experimentwise error rate under the complete null hypothesis but not under partial null hypotheses.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	0.922697
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Number of Means	2
Critical Range	0.2687506

Means with the same letter are not significantly different.			
SNK Grouping	Mean	N	X5
A	7.4978	92	1
B	6.4880	108	0

The SAS System

The GLM Procedure

Tukey's Studentized Range (HSD) Test for X20

Note: This test controls the Type I experimentwise error rate, but it generally has a higher Type II error rate than REGWQ.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	0.922697
Critical Value of Studentized Range	2.78885
Minimum Significant Difference	0.2688
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Means with the same letter are not significantly different.			
Tukey Grouping	Mean	N	X5
A	7.4978	92	1
B	6.4880	108	0

The SAS System

The GLM Procedure

Scheffe's Test for X20

Note: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	0.922697
Critical Value of F	3.88885

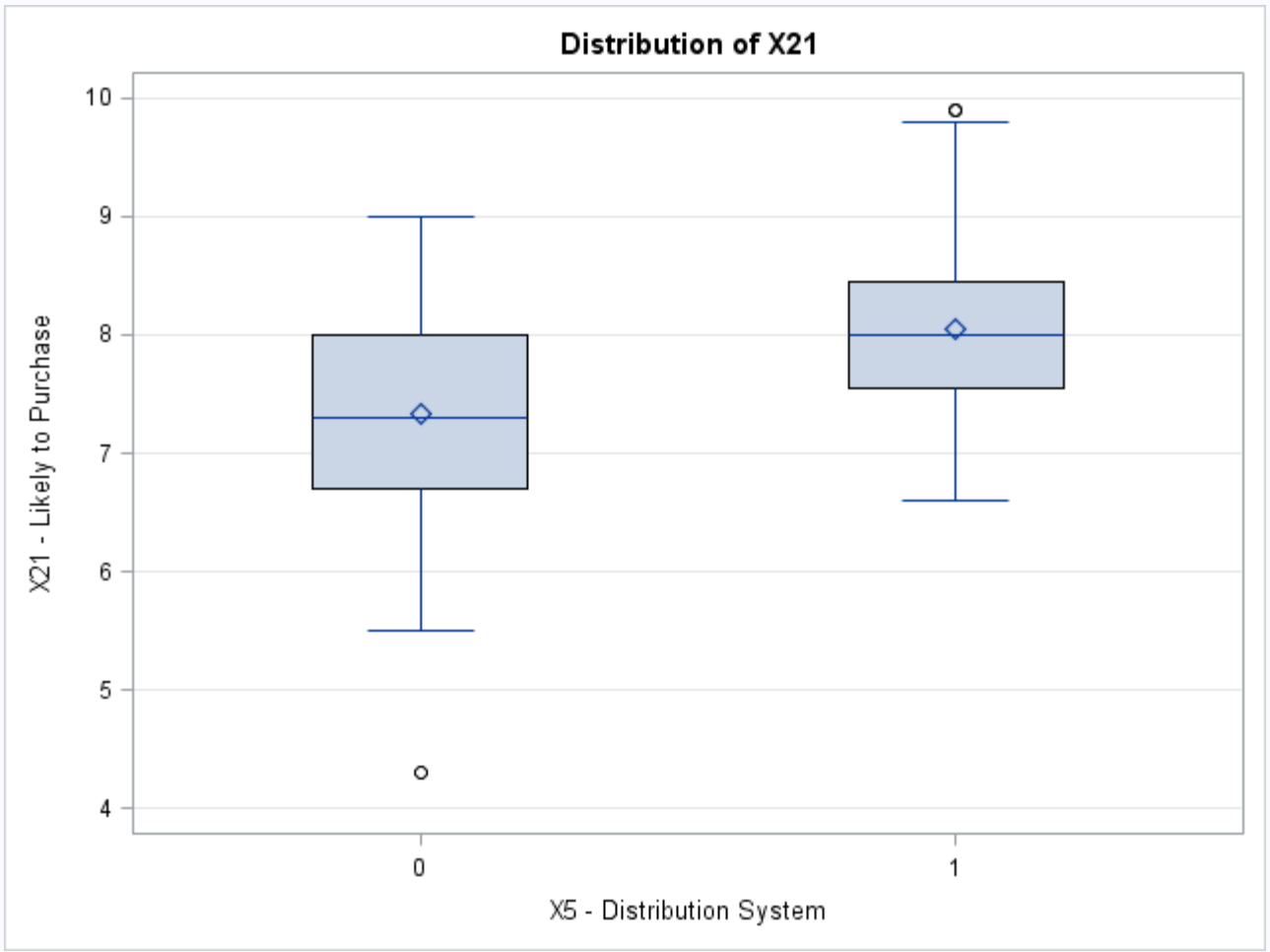
Minimum Significant Difference	0.2688
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Means with the same letter are not significantly different.			
Scheffe Grouping	Mean	N	X5
A	7.4978	92	1
B	6.4880	108	0

The SAS System

The GLM Procedure



The SAS System

The GLM Procedure

t Tests (LSD) for X21

Note: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	0.673632
Critical Value of t	1.97202
Least Significant Difference	0.2296
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Means with the same letter are not significantly different.			
t Grouping	**Mean**	**N**	**X5**
A	8.0511	92	1
B	7.3361	108	0

The SAS System

The GLM Procedure

Duncan's Multiple Range Test for X21

Note: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	0.673632
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Number of Means	**2**
Critical Range	.2296

Means with the same letter are not significantly different.			
Duncan Grouping	**Mean**	**N**	**X5**
A	8.0511	92	1
B	7.3361	108	0

The SAS System

The GLM Procedure

Student-Newman-Keuls Test for X21

Note: This test controls the Type I experimentwise error rate under the complete null hypothesis but not under partial null hypotheses.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	0.673632
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Number of Means	**2**
Critical Range	0.2296314

Means with the same letter are not significantly different.

SNK Grouping	Mean	N	X5
A	8.0511	92	1
B	7.3361	108	0

The SAS System

The GLM Procedure

Tukey's Studentized Range (HSD) Test for X21

Note: This test controls the Type I experimentwise error rate, but it generally has a higher Type II error rate than REGWQ.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	0.673632
Critical Value of Studentized Range	2.78885
Minimum Significant Difference	0.2296
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Means with the same letter are not significantly different.

Tukey Grouping	Mean	N	X5
A	8.0511	92	1
B	7.3361	108	0

The SAS System

The GLM Procedure

Scheffe's Test for X21

Note: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	198
Error Mean Square	0.673632
Critical Value of F	3.88885
Minimum Significant Difference	0.2296
Harmonic Mean of Cell Sizes	99.36

Note: Cell sizes are not equal.

Means with the same letter are not significantly different.			
Scheffe Grouping	**Mean**	**N**	**X5**
A	8.0511	92	1
B	7.3361	108	0

The SAS System

The GLM Procedure

Levene's Test for Homogeneity of X19 Variance ANOVA of Squared Deviations from Group Means					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
X5	1	0.0482	0.0482	0.04	0.8390
Error	198	230.5	1.1640		

Brown and Forsythe's Test for Homogeneity of X19 Variance ANOVA of Absolute Deviations from Group Medians					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
X5	1	3.221E-7	3.221E-7	0.00	0.9992
Error	198	57.3112	0.2895		

Bartlett's Test for Homogeneity of X19 Variance			
Source	**DF**	**Chi-Square**	**Pr > ChiSq**
X5	1	0.0230	0.8794

Levene's Test for Homogeneity of X20 Variance ANOVA of Squared Deviations from Group Means					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
X5	1	0.5739	0.5739	0.41	0.5217
Error	198	275.9	1.3932		

Brown and Forsythe's Test for Homogeneity of X20 Variance ANOVA of Absolute Deviations from Group Medians

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
X5	1	0.2013	0.2013	0.63	0.4268
Error	198	62.8483	0.3174		

Bartlett's Test for Homogeneity of X20 Variance

Source	DF	Chi-Square	Pr > ChiSq
X5	1	0.3321	0.5644

Levene's Test for Homogeneity of X21 Variance
ANOVA of Squared Deviations from Group Means

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
X5	1	2.3759	2.3759	2.42	0.1216
Error	198	194.6	0.9830		

Brown and Forsythe's Test for Homogeneity of X21 Variance
ANOVA of Absolute Deviations from Group Medians

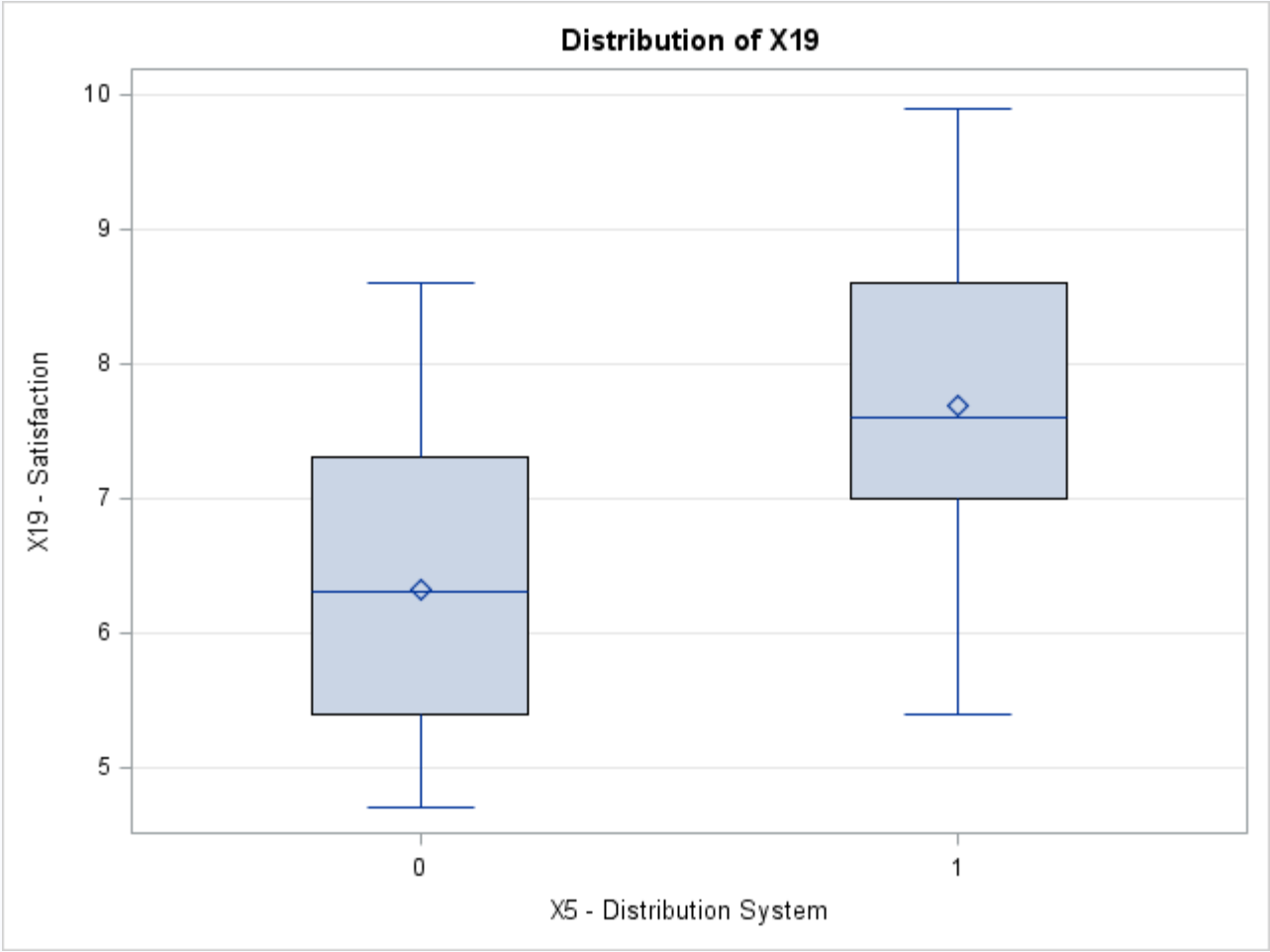
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
X5	1	0.7648	0.7648	2.99	0.0851
Error	198	50.5624	0.2554		

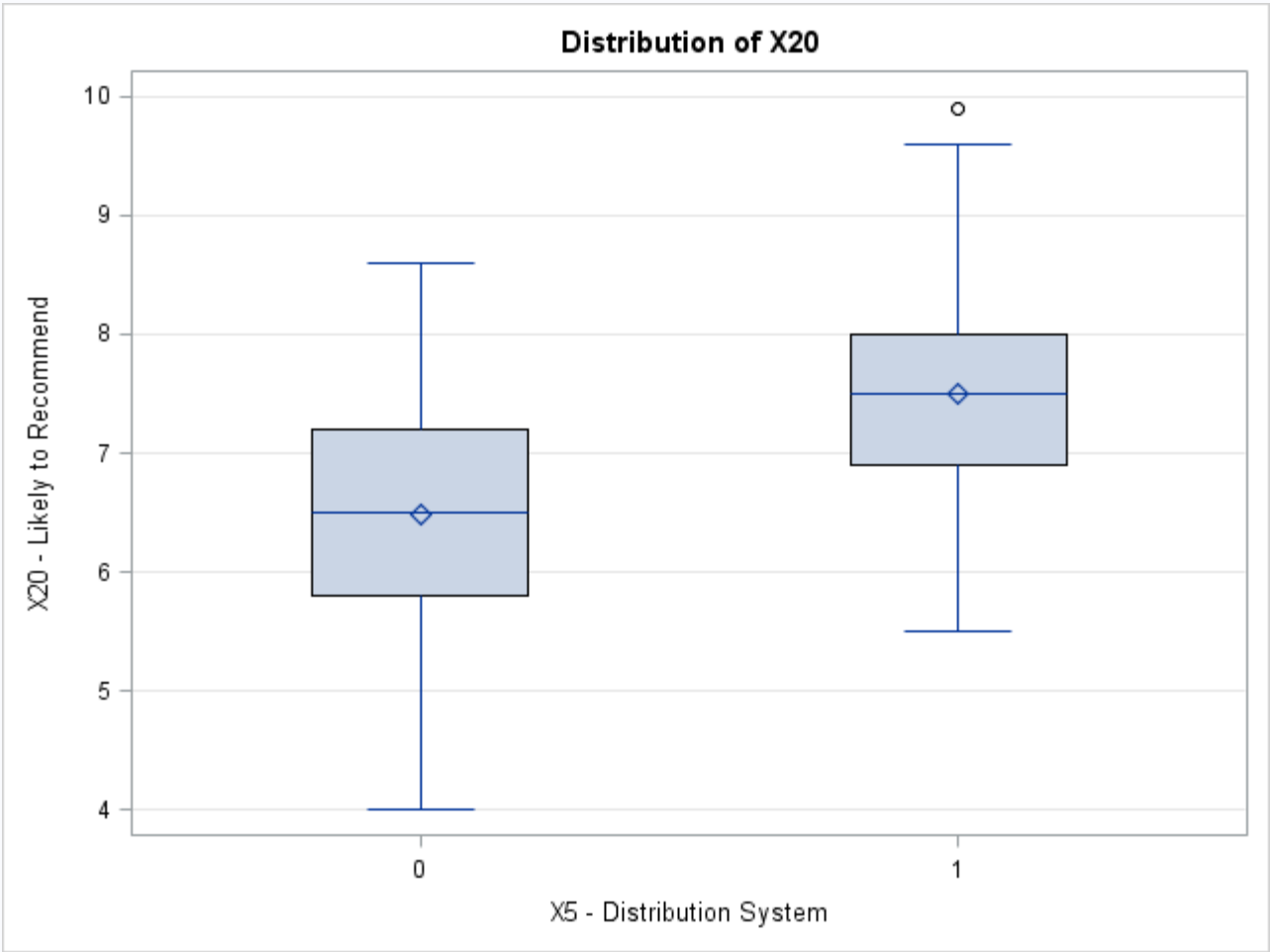
Bartlett's Test for Homogeneity of X21 Variance

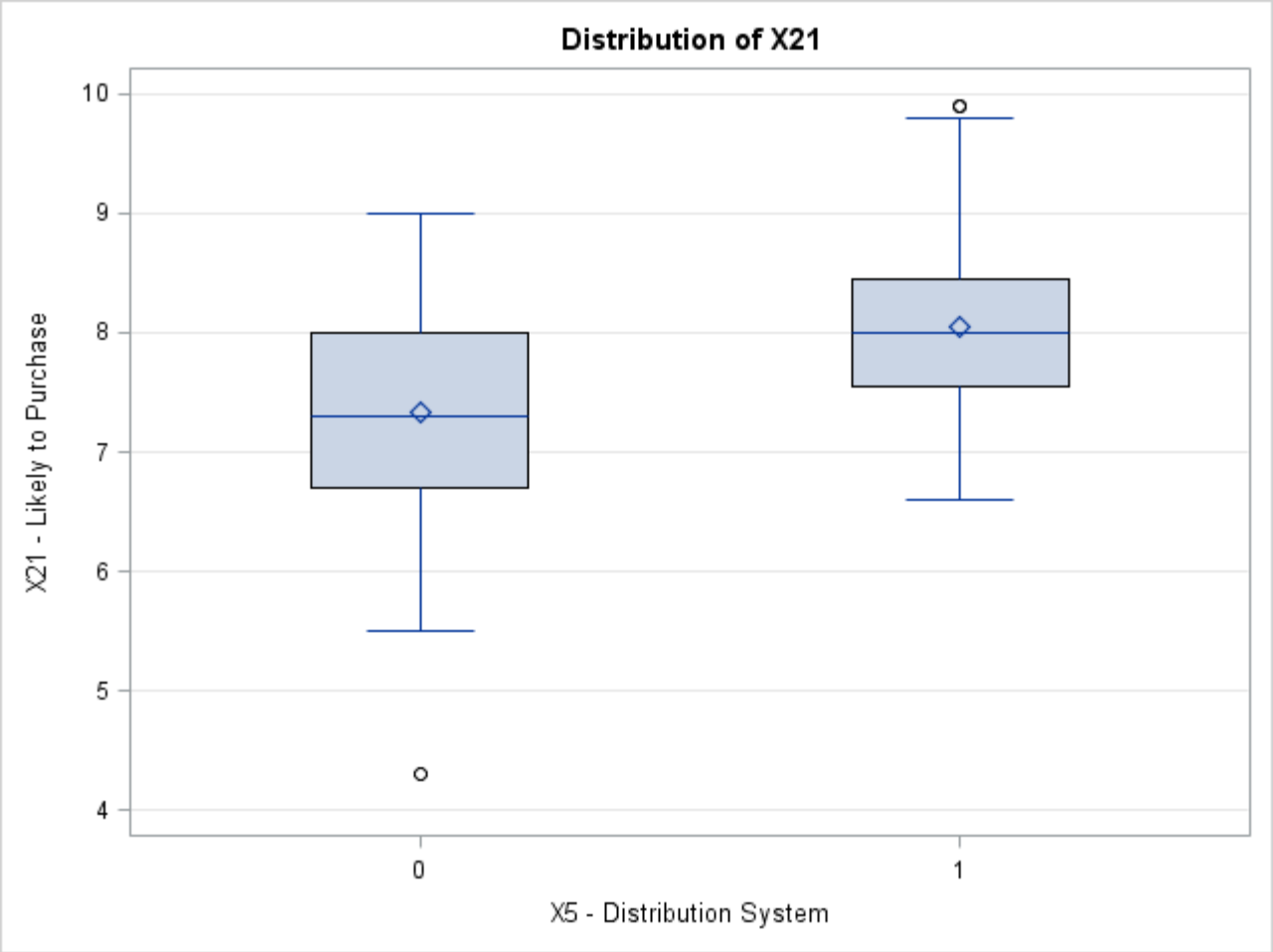
Source	DF	Chi-Square	Pr > ChiSq
X5	1	2.6886	0.1011

The SAS System

The GLM Procedure


Distribution of X19
X19 - Satisfaction
10
9
8
7
6
5
0
1
X5 - Distribution System

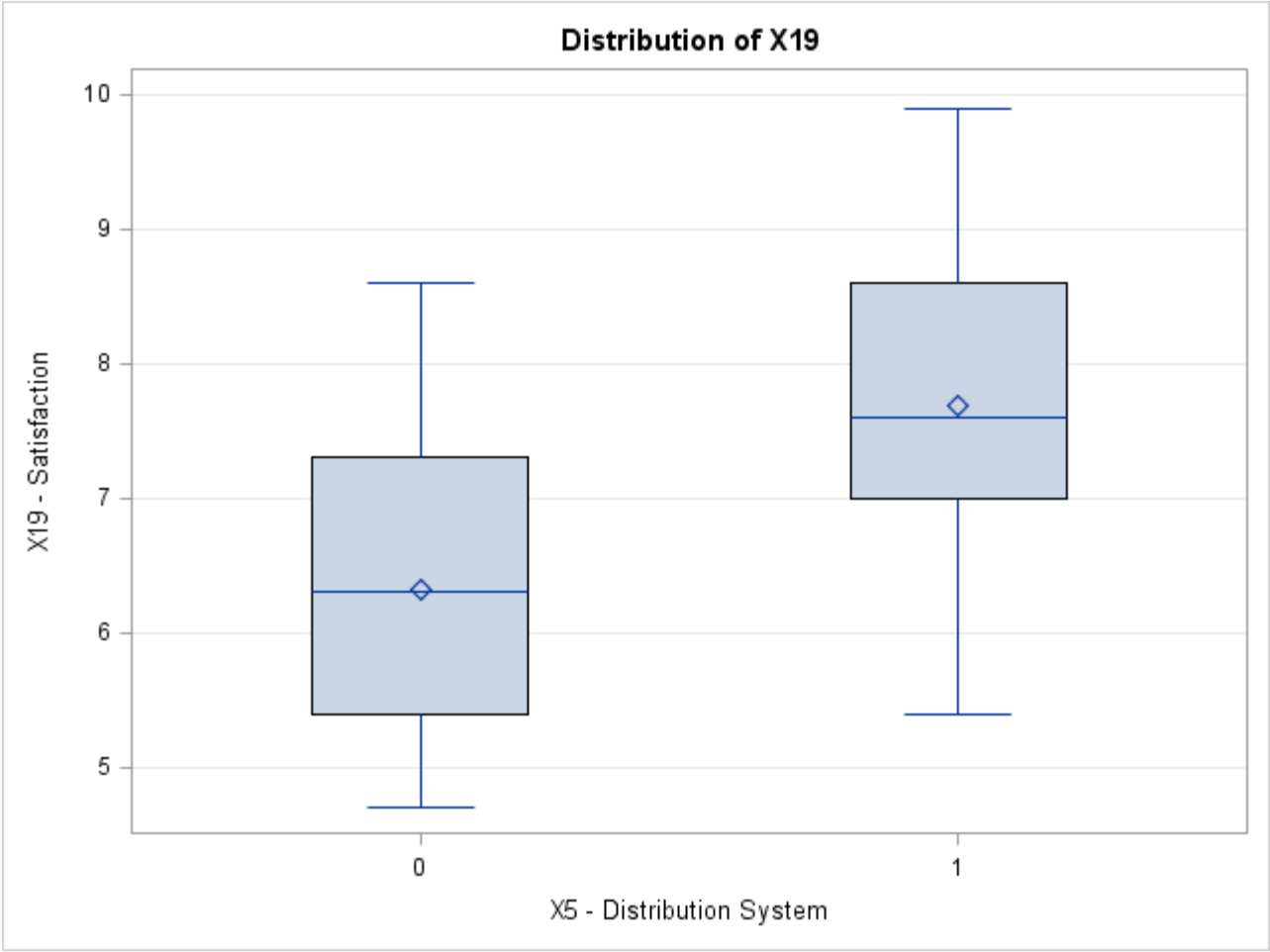

Distribution of X20
X20 - Likely to Recommend
10
9
8
7
6
5
4
0
1
X5 - Distribution System

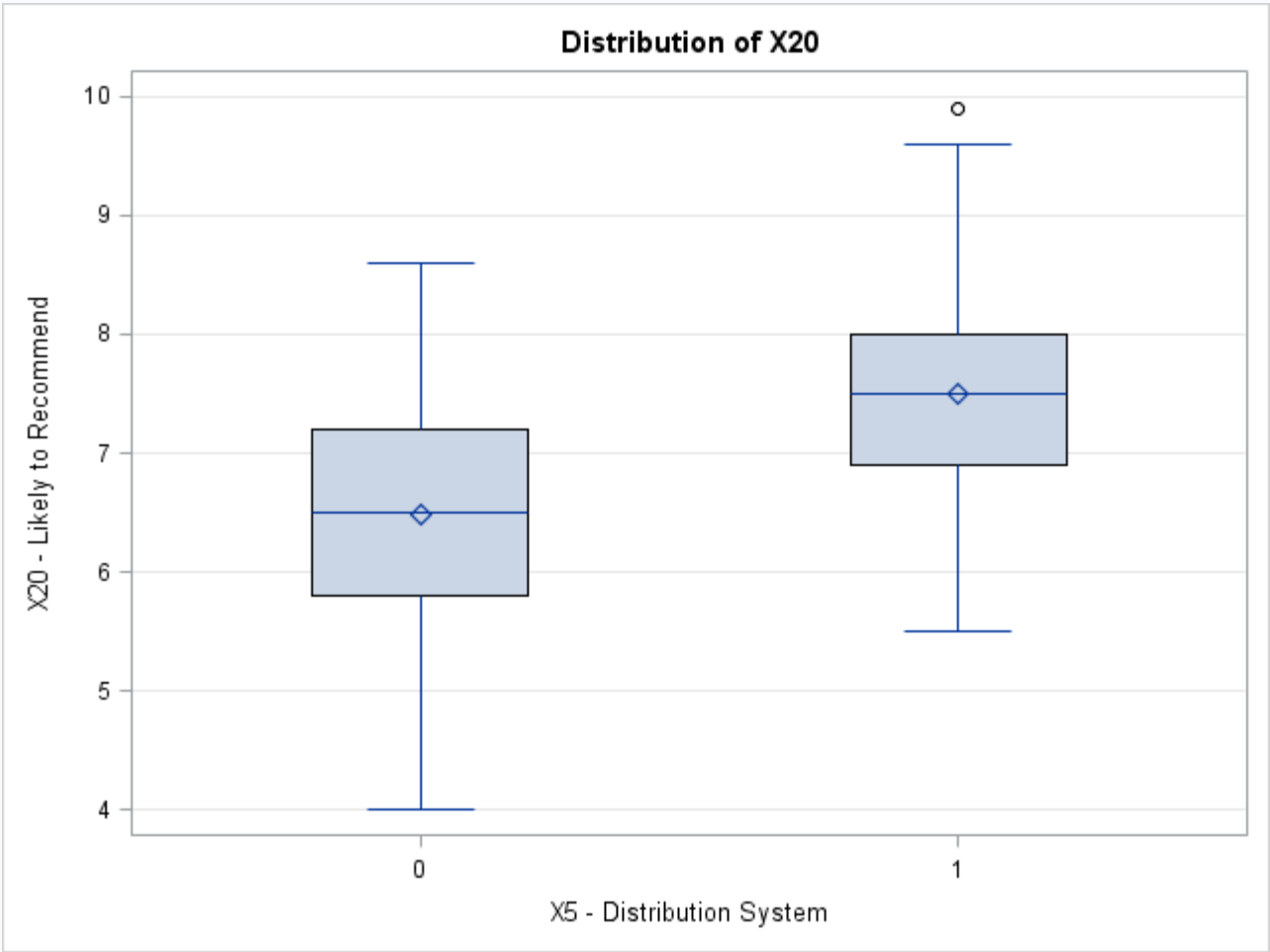


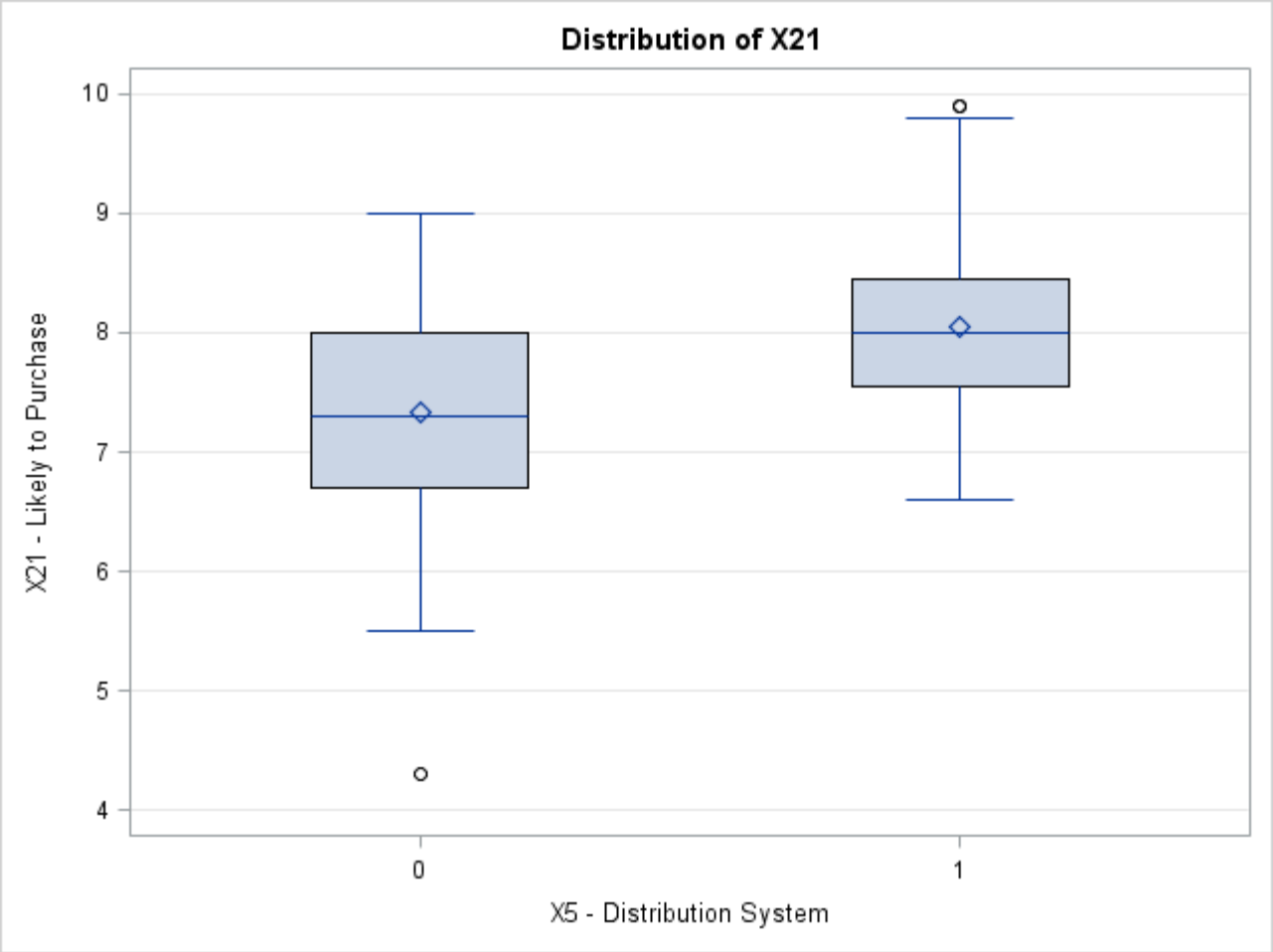
Level of X5	N	X19		X20		X21	
		Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
0	108	6.32500000	1.03283703	6.48796296	0.98585487	7.33611111	0.88015062
1	92	7.68804348	1.04879233	7.49782609	0.92996257	8.05108696	0.74487178

The SAS System

The GLM Procedure


Distribution of X19
X19 - Satisfaction
10
9
8
7
6
5
0
1
X5 - Distribution System


Distribution of X20
X20 - Likely to Recommend
10
9
8
7
6
5
4
0
1
X5 - Distribution System



Level of X5	N	X19		X20		X21	
		Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
0	108	6.32500000	1.03283703	6.48796296	0.98585487	7.33611111	0.88015062
1	92	7.68804348	1.04879233	7.49782609	0.92996257	8.05108696	0.74487178

The SAS System

The GLM Procedure
Multivariate Analysis of Variance

Characteristic Roots and Vectors of: E Inverse * H, where
H = Type III SSCP Matrix for X5
E = Error SSCP Matrix

Characteristic Root	Percent	Characteristic Vector V'EV=1		
		X19	X20	X21
0.44269981	100.00	0.05874016	0.01711389	-0.00412580
0.00000000	0.00	-0.04393598	-0.02485066	0.11886053
0.00000000	0.00	-0.07416532	0.10010323	0.00000000

MANOVA Tests for the Hypothesis of No Overall X5 Effect
H = Type III SSCP Matrix for X5
E = Error SSCP Matrix

S=1 M=0.5 N=97

Statistic	Value	P-Value
Wilks' Lambda	0.69314489	<.0001

Pillai's Trace	0.30685511	<.0001
Hotelling-Lawley Trace	0.44269981	<.0001
Roy's Greatest Root	0.44269981	<.0001

Multivariate Statistical Testing

The four most commonly used multivariate tests (Pillai's criterion, Wilks' lambda, Hotelling's T2 and Roy's greatest characteristic root). Each of the four measures indicates that the set of purchase outcomes have a highly significant difference (.000) between the two types of distribution channel. This confirms the group differences seen in the ANOVA's and the Boxplots.

These results confirm that the type of distribution channel does affect customer perceptions in terms of the three purchase outcomes. These statistically significant differences, which are of a sufficient magnitude to denote managerial significance as well, indicate that the direct distribution channel is more effective in creating positive customer perceptions on a wide range of purchase outcomes.