

PILOT STUDY: NATIONAL SURVEY OF BUSINESS COMPETITIVENESS

Appendix B

The FASTCLUS Procedure
 Replace=FULL Radius=0 Maxclusters=4 Maxiter=1

Initial Seeds

Cluster	Q13A_r	Q13B_r	Q16_r	Q24_r	Q25_r	Q26_r	Q28A_r	Q34D_r	Q37D_r
1	1.000000000	1.000000000	1.000000000	1.000000000	0.000000000	0.000000000	0.000000000	1.000000000	0.000000000
2	0.000000000	0.000000000	1.000000000	0.000000000	1.000000000	1.000000000	0.000000000	1.000000000	1.000000000
3	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	1.000000000	0.000000000	0.000000000
4	1.000000000	1.000000000	0.000000000	1.000000000	1.000000000	1.000000000	1.000000000	0.000000000	1.000000000

Criterion Based on Final Seeds = 0.3747

Cluster Summary

Cluster	Frequency	RMS Std Deviation	Maximum Distance from Seed to Observation	Radius Exceeded	Nearest Cluster	Distance Between Cluster Centroids
1	401	0.4003	1.7717		4	0.9758
2	300	0.4081	1.7264		3	1.0625
3	487	0.2993	1.7810		2	1.0625
4	320	0.3864	1.7128		1	0.9758

Statistics for Variables

Variable	Total STD	Within STD	R-Square	RSQ/(1-RSQ)
Q13A_r	0.50016	0.13627	0.925922	12.499308
Q13B_r	0.49741	0.16843	0.885568	7.738829
Q16_r	0.49705	0.47319	0.095520	0.105607
Q24_r	0.49819	0.44403	0.207167	0.261300
Q25_r	0.49411	0.37889	0.413161	0.704045
Q26_r	0.49989	0.37669	0.433297	0.764591
Q28A_r	0.41359	0.39454	0.091829	0.101114
Q34D_r	0.42273	0.40445	0.086455	0.094636
Q37D_r	0.43430	0.39279	0.183629	0.224933
OVER-ALL	0.47437	0.36923	0.395356	0.653867

Pseudo F Statistic = 327.81

Approximate Expected Over-All R-Squared = 0.22568

Cubic Clustering Criterion = 69.835

WARNING: The two values above are invalid for correlated variables.

Cluster Means

Cluster	Q13A_r	Q13B_r	Q16_r	Q24_r	Q25_r	Q26_r	Q28A_r	Q34D_r	Q37D_r
1	1.000000000	0.915211970	0.620947631	0.568578554	0.371571072	0.416458853	0.119700748	0.221945137	0.147132170
2	0.040000000	0.000000000	0.586666667	0.370000000	0.613333333	0.866666667	0.270000000	0.326666667	0.300000000
3	0.034907598	0.000000000	0.275154004	0.193018480	0.041067762	0.127310062	0.127310062	0.075975359	0.092402464
4	1.000000000	0.962500000	0.346875000	0.793750000	0.887500000	0.906250000	0.434375000	0.396875000	0.581250000

Cluster Standard Deviations

Cluster	Q13A_r	Q13B_r	Q16_r	Q24_r	Q25_r	Q26_r	Q28A_r	Q34D_r	Q37D_r
1	0.000000000	0.2789139965	0.485752436	0.4958933599	0.4838282501	0.4935873063	0.3250167845	0.4160735596	0.3546801446
2	0.1962865968	0.0000000000	0.4932543852	0.4836109993	0.4877998749	0.3405026123	0.4447012450	0.4697778122	0.4590232468
3	0.1837345265	0.0000000000	0.4470510679	0.3950732152	0.1986510308	0.3336627267	0.3336627267	0.2652311350	0.2898910293
4	0.0000000000	0.1902810988	0.4767210201	0.4052457747	0.3164754964	0.2919371041	0.4964509623	0.4900159136	0.4941269493

The FASTCLUS Procedure
 Replace=FULL Radius=0 Maxclusters=5 Maxiter=1

Initial Seeds

Cluster	Q13A_r	Q13B_r	Q16_r	Q24_r	Q25_r	Q26_r	Q28A_r	Q34D_r	Q37D_r
1	1.000000000	1.000000000	0.000000000	0.000000000	1.000000000	0.000000000	0.000000000	1.000000000	0.000000000
2	0.000000000	0.000000000	1.000000000	0.000000000	1.000000000	1.000000000	0.000000000	1.000000000	1.000000000
3	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	1.000000000	0.000000000	1.000000000
4	1.000000000	1.000000000	1.000000000	1.000000000	0.000000000	1.000000000	1.000000000	1.000000000	1.000000000
5	1.000000000	0.000000000	0.000000000	1.000000000	0.000000000	1.000000000	0.000000000	0.000000000	0.000000000

Criterion Based on Final Seeds = 0.3704

Cluster Summary

Cluster	Frequency	RMS Std Deviation	Maximum Distance from Seed to Observation	Radius Exceeded	Nearest Cluster	Distance Between Cluster Centroids
1	253	0.3847	1.7156		5	0.8968
2	269	0.4054	1.7504		3	1.1016
3	479	0.2979	1.7526		2	1.1016
4	273	0.3914	1.7218		5	1.0975
5	234	0.3735	1.7044		1	0.8968

Statistics for Variables

Variable	Total STD	Within STD	R-Square	RSQ/(1-RSQ)
Q13A_r	0.50016	0.20042	0.839853	5.244257
Q13B_r	0.49741	0.20470	0.831094	4.920458
Q16_r	0.49705	0.46624	0.122472	0.139565
Q24_r	0.49819	0.37045	0.448532	0.813342
Q25_r	0.49411	0.40772	0.320897	0.472530
Q26_r	0.49989	0.39040	0.391717	0.643972
Q28A_r	0.41359	0.38159	0.151041	0.177913
Q34D_r	0.42273	0.38465	0.174241	0.211007
Q37D_r	0.43430	0.36924	0.279073	0.387104
OVER-ALL	0.47437	0.36290	0.416320	0.713268

Pseudo F Statistic = 268.01

Approximate Expected Over-All R-Squared = 0.27535

Cubic Clustering Criterion = 55.605

WARNING: The two values above are invalid for correlated variables.

Cluster Means

Cluster	Q13A_r	Q13B_r	Q16_r	Q24_r	Q25_r	Q26_r	Q28A_r	Q34D_r	Q37D_r
1	1.000000000	0.988142292	0.403162055	0.221343874	0.573122530	0.371541502	0.114624506	0.252964427	0.158102767
2	0.040892193	0.000000000	0.665427509	0.360594796	0.635687732	0.851301115	0.271375465	0.368029740	0.260223048
3	0.037578288	0.000000000	0.279749478	0.148225470	0.033402923	0.121085595	0.133611691	0.073068894	0.127348643
4	1.000000000	0.959706960	0.673992674	0.919413919	0.739926740	0.816849817	0.534798535	0.516483516	0.721611722
5	0.833333333	0.696581197	0.303418803	0.905982906	0.440170940	0.747863248	0.076923077	0.051282051	0.051282051

Cluster Standard Deviations

Cluster	Q13A_r	Q13B_r	Q16_r	Q24_r	Q25_r	Q26_r	Q28A_r	Q34D_r	Q37D_r
1	0.000000000	0.1084601250	0.4915051000	0.4159743920	0.4956046219	0.4841745504	0.3191997019	0.4355724052	0.3655605031
2	0.1984095895	0.0000000000	0.4727202789	0.4810680935	0.4821337747	0.3564545805	0.4454981744	0.4831683978	0.4395740247
3	0.1903728494	0.0000000000	0.4493453396	0.3556948284	0.1798741612	0.3265677843	0.3405903433	0.2605216393	0.3337116385
4	0.0000000000	0.1970067982	0.4696108683	0.2726982969	0.4394799673	0.3874999566	0.4997036398	0.5006459951	0.4490287347
5	0.3734768782	0.4607200231	0.4607200231	0.2924781194	0.4974716899	0.4351701933	0.2670405654	0.2210452674	0.2210452674

