Comparative performance study of different clustering algorithms using different pre-processing techniques with different numbers of clusters on different evaluation parameters

Using K-Mean Clustering																		
Parameters	No data processing			Using Normalization			Using Transformation			Using PCA			Using T+N			Using T+N+PCA		
	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5
Silhouette	0.5526	0.4972	0.4885	0.4584	0.3891	0.3448	0.6545	0.6170	0.5950	0.5526	0.4978	0.491	0.4575	0.4185	0.3526	0.4575	0.4211	0.353
Calinski-Harabasz	560.3999	529.1207	494.0944	239.3362	206.5176	202.6844	1166.7008	1353.8	1410.62	560.4	529.398	493.924	242.996	210.27	208.144	242.996	209.198	207.309
Davies-Bouldin	0.6623	0.7760	0.8062	0.8358	0.8657	0.9489	0.4873	0.5312	0.596	0.6623	0.7806	0.8163	0.8385	0.9307	0.9551	0.8385	0.9191	0.9492

Using Spectral Clustering																		
Parameters	No data processing			Using Normalization			Using Transformation			Using PCA			Using T+N			Using T+N+PCA		
	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5
Silhouette	0.5551	0.4914	0.4534	0.4619	0.1591	0.3876	0.6555	0.5521	0.5641	0.5551	0.4914	0.4534	0.4594	0.3885	0.3568	0.4594	0.3885	0.37
Calinski-Harabasz	554.9086	466.6312	436.7667	234.3256	55.3567	170.7488	1121.6756	947.75	1022.92	554.907	466.631	436.767	240.889	202.514	125.746	240.889	202.514	124.6
Davies-Bouldin	0.6542	0.6582	0.7332	0.8277	0.8052	0.7589	0.4806	0.5118	0.4849	0.6542	0.6582	0.7332	0.8361	0.8522	0.815	0.8361	0.8522	0.7966

Using Agglomerative Clustering																		
Parameters	No data processing			Using Normalization			Using Transformation			Using PCA			Using T+N			Using T+N+PCA		
	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5
Silhouette	0.5541	0.4887	0.4842	0.4455	0.3993	0.3550	0.6503	0.5885	0.5807	0.5541	0.4887	0.4842	0.4462	0.4251	0.3625	0.4462	0.4251	0.3625
Calinski-Harabasz	556.8410	513.7721	487.0704	220.2605	198.7303	194.9616	1138.6493	1222.94	1353.35	556.841	513.772	487.071	223.459	200.018	199.303	223.459	200.018	199.302
Davies-Bouldin	0.6566	0.7956	0.8207	0.8059	0.9811	0.9465	0.4854	0.5736	0.5969	0.6566	0.7956	0.8207	0.8356	0.8637	0.8962	0.8356	0.8637	0.8962

Using Mean Shift Clustering																		
Parameters	No data processing			Using Normalization			Using Transformation			Using PCA			Using T+N			Using T+N+PCA		
	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5	c=3	c=4	c=5
Silhouette	0.6855	0.6855	0.6855	0.5802	0.5802	0.5802	0.7633	0.7633	0.7633	0.6855	0.6855	0.6855	0.5836	0.5836	0.5836	0.5836	0.5836	0.5836
Calinski-Harabasz	508.8825	508.8825	508.8825	248.9035	248.9035	248.9035	762.9648	762.965	762.965	508.882	508.882	508.882	254.447	254.447	254.447	254.447	254.447	254.447
Davies-Bouldin	0.3893	0.3893	0.3893	0.5976	0.5976	0.5976	0.2606	0.2606	0.2606	0.3893	0.3893	0.3893	0.5931	0.5931	0.5931	0.5931	0.5931	0.5931