**Empirical result summary**

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| --- | --- | --- | --- | --- | --- | --- |
| Cluster | Number of Consumers | Average Energy Consumption (kWh) | Correlation with Quarter 1 | Correlation with Quarter 3 | Correlation with Temperature | Insights |
| **Cluster 0** (Low to Moderate Consumption) | 316,642 | 150 kWh | 0.97 (High Positive) | 0.55 (Moderate Positive) | 0.20 (Low Positive) | |  | | --- | |  |  |  | | --- | | Consumers have steady consumption patterns with some seasonal variability, particularly in colder and warmer months. | |
| **Cluster 1** (High Consumption) | 183,358 | |  | | --- | |  |  |  | | --- | | 500 kWh | | 0.97 (High Positive) | 0.60 (Moderate Positive) | 0.75 (Strong Positive) | |  | | --- | |  |  |  | | --- | | Represents households and industries with high demand, significant seasonal variation, and high energy usage during peak periods. | |